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# THE ARCHITECTURAL JOURNAL

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THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VOL. XV. THIRD SERIES, 1908





# JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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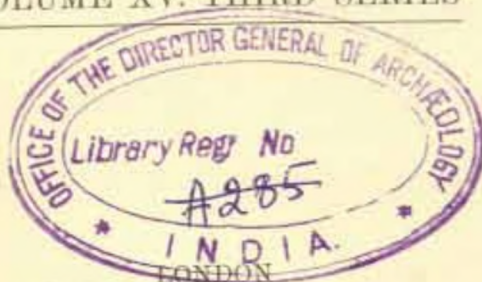


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# JOURNAL

OF

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

Seventy-third Session—1907-1908.

THE OPENING ADDRESS. Delivered by the President, Mr. THOMAS E. COLLICUTT,  
at the First General Meeting, Monday, 4th November 1907.

LADIES AND GENTLEMEN,—

IN opening this the seventy-third Session of the Institute my first duty and pleasure is to thank my brother architects for the confidence they have shown in electing me for the second time to the position of President; and I desire to express my gratitude to the Council for the courtesy, forbearance, and loyal support which they continually afforded me during my term of office last Session.

In reviewing the work and the proceedings of the last Session it is with very great pleasure that I refer to the striking success of the visit to Edinburgh and the Annual Dinner there in July last. It is, however, much to be regretted that there was not so full a representative attendance from London and the provinces as one would have wished, and as the occasion demanded. This may have been due to several reasons, such as the inclemency of the weather during last summer, the distance from London, and consequently the length of time that was required for the visit. It was satisfactory to note that a very fair proportion of the Council were present during the whole of the proceedings. There were present nine Fellows besides many members of the Allied Societies. The programme of proposed visits to buildings prepared by the Edinburgh Architectural Association was a highly interesting one. The opening meeting was a reception given in our honour, by the Lord Provost and the Magistrates, which was attended by a large and representative gathering of the citizens of Edinburgh, and was a very brilliant success and highly appreciated by the visitors.

We were conducted over many buildings of exceptional interest, of which none, I think, appealed to us more than the Holyrood Palace and Chapel.

The latter building was the object of close study on the part of the visitors. Beyond the acknowledged beauty of its architecture especial interest and consideration was given to the very important subject of restoration, a question which has given rise to a keen controversy among the citizens and architects of Edinburgh. It will be remembered that a large sum of money was devised by the late Lord Melville to be used at the discretion of an architect nominated by him in a complete restoration of the Chapel. Very many prominent architects and other authorities, however, have expressed considerable alarm at any restoration of one of the most interesting remnants of mediæval work.

The consensus of opinion among the visitors appeared to be very strongly in favour of non-restoration, the general verdict being that it was only desirable to devise some simple means of protecting the upper parts of the walls from the ravages of rain, frost, and snow, and that very little need be done in the way of repairing. It was thought that restoration would practically mean rebuilding the greater part of the Chapel and adding a new roof and vaulting. At present there is no roof, and the greater portion of the north arcade has practically disappeared. In fact it was felt that restoration on such a large scale would practically mean that a new Chapel would arise, and that much of the work of our forefathers would be obliterated, or at least renovated out of all knowledge. As it now stands this building forms a monument of mediæval work, beautiful in design and workmanship; and properly protected it would continue, for ages to come, to afford an example of a phase in our art which can never be reproduced.

By the courtesy of those in charge of the Palace we were enabled to visit the suite of private apartments not generally open to the public, and these rooms we found to be of quite exceptional interest and beauty. This work is of the latter half of the seventeenth century: it acquires additional interest from the fact that something more than tradition exists as to the workmen employed in modelling and carrying out the various ceilings. These ceilings are of great beauty of design, and the modelling of the plaster-work ranks among the best ever produced in this style. The greater part is said to have been modelled *in situ*. We are shortly to have a Paper on the Royal Palaces of Scotland, by Mr. W. T. Oldrieve, the architect who has charge of these palaces on behalf of the Government. The subject is a most interesting one, and it may be confidently anticipated that Mr. Oldrieve, with his great knowledge of the subject, will treat it with the appreciation it deserves.

I think we visitors were much impressed by the intelligent and keen interest in architecture displayed by those gentlemen present at our meetings who were not members of our profession. Their evident desire to encourage the production of what is best in our art must be as gratifying as it is fortunate for our Edinburgh brethren. In Edinburgh this interest and enthusiasm is not confined to the exhibitions of pictures and the permanent art galleries; it is generously accorded to our art both in public and private enterprises.

I think this feeling is not as evident in London as it is in the large provincial centres. Perhaps the reason is that a closer personal relation between the public and the architect exists in provincial centres than is possible in our overgrown London. For instance, I cannot but feel that the Corporation and the London County Council as corporate bodies show only the slightest knowledge of architecture. I think I may say that not a dozen architects of repute and position are known to either of these corporate bodies; whereas in the smaller cities, such as Edinburgh, architects and public bodies are better known to each other, and perhaps in consequence of this the citizens have more knowledge and greater appreciation of our art.

In the northern capital the rise of the younger men is watched with interest and pride, and they are thus encouraged and stimulated in their careers. No less interest is taken in the work of those architects who in the past have created the buildings that adorn the city of Edinburgh and make it one of the most beautiful in the United Kingdom. Human beings, and especially artists, are so constituted that they demand sympathy, encouragement, and appreciation. In the smaller communities this is given more freely and more generously than is possible, I fear, in our unwieldy London.

I now ask your permission to refer in a few words to the position of affairs in regard to the proposed revision of the Charter and By-laws. In a note in the *JOURNAL* of 27th July

1907 it is stated that "the recommendations of the Council for the revision of the Charter and By-laws were duly brought forward and considered at the Special General Meeting convoked by the Council for the purpose, and held on Tuesday, 2nd July. These recommendations were the outcome of the Council's Report on the resolutions respecting the question of registration passed at the meeting of 3rd April last year. This Report was presented to the General Body, and was adopted at the meeting of 4th March last."

At this meeting, in response to a question from a member, I ruled that Associates had no more right to vote on matters concerning the Charter than they had to vote on matters concerning the By-laws. The question as to whether Associates had this right came as a surprise to me, as it did, I believe, to most of the Fellows present at the meeting. I had to decide this matter on the spur of the moment. It appeared to me that if Associates had the right to vote on the revision of the Charter they would be in a position to move and carry a resolution giving them by Charter a right to vote on matters concerning the By-laws. This appeared to me to be contrary to the whole spirit of both Charter and By-laws, and I ruled against the gentlemen who had brought forward the question. The business of the meeting then went forward without interruption, excepting that about half a dozen Associates left the room; but this, of course, did not affect the number of voters. There were still many Associates in the room, and we had the benefit of their suggestions and criticism in considering the whole document before the meeting.

The recommendations of the Council were carried with some slight alterations. Upon the question being put whether these recommendations should be forwarded to His Majesty and the Privy Council for approval, a unanimous vote was given in the affirmative by a show of hands. A Special General Meeting to confirm what had taken place was then called for 15th July. In the meantime a communication from an Associate enclosing Counsel's opinion as to my ruling was received by the Secretary: this opinion was an adverse one. The matter was then considered by the Council, assisted by their legal advisers, and they arrived at the decision that the whole of the proceedings of the meeting of 2nd July were invalid. I announced this decision to the meeting of 15th July, which therefore was immediately closed.

Had the question of the rights of Associates not been raised, the document relating to the revision of the Charter and By-laws would have been at once submitted to the Privy Council prior to going to Parliament for a Bill.

The delay is a matter of great regret to the Council, who had hoped to be in a position to assure the Institute that this important reform in their constitution was likely to be legally established before next Christmas. Their regret is the keener because the question of the election of Fellows, which was to have been on a different basis, may have to be left open for an indefinite period. This point, however, will be submitted to the consideration of a General Meeting at an early date.

None can regret the delay caused by my decision of 2nd July more than I do myself, but I do not intend to make any apology for my action on that occasion. As I said before, I consider that the whole spirit of the Charter and By-laws is against the presumption that Associates can have a vote in either case. I firmly believe that with very few exceptions this is the opinion of the whole body of members, both Fellows and Associates.

It is sincerely to be hoped that the consideration of this important matter will be prosecuted with vigour and without unnecessary delay during the coming Session. The question has to a large extent engrossed the attention of the Institute for nearly four years, and I believe that it has done so to the detriment of other important matters.

I have no wish to minimise the gravity of the question, but I think there are other subjects which should receive our serious attention—subjects which in my opinion may better

serve to further the object for which the Institute was established, namely, the advancement of civil architecture. It must be remembered that the number of capable and experienced men who can devote a considerable amount of time to committee work is naturally limited; at the same time one need not anticipate any difficulty in forming strong committees to consider the many important matters that should engage the attention of the Council in the coming Session.

- Among such questions are the architectural development of towns and suburban areas, the possibility of legislation respecting building by-laws, and the laws of light and air. The latter surely call for careful consideration by architects, not so much in their own interests as in that of the building owner. Until architects take definite measures to secure reform in this direction, I am afraid that little will be done, and that there will still be vexatious and unjust impediments placed in the way of those who are obliged to build. In this connection Mr. Simpson's suggestion that a Building Board should be established \* deserves the consideration of those who see the necessity for reform, both in Building Acts and in the laws of light and air.

The Institute would do well to take a more prominent and active part in the support of such Societies as that for the Preservation of Ancient Monuments, the National Trust for Places of Historic Interest or Natural Beauty, the Society for the Abatement of the Smoke Nuisance, and other similarly useful institutions.

In speaking a few words on the subject of the architectural development of towns and suburban areas, I must ask your forgiveness if I refer for a moment to my Address of last year. It may be remembered that I then made a suggestion that the South of London could become an integral part of the City of Westminster by means of the erection of "street bridges." I did not then know, or it had escaped my memory, that in an Address previously delivered here a suggestion had been made, not entirely dissimilar to my own, but differing from it in that the idea conveyed was not that of complete street bridges, but of the addition of covered ways to existing bridges. In his Address of 2nd November 1903 Sir Aston Webb said: "The widening of London Bridge is in full progress, and the temporary covered footways on either side suggest what picturesque and welcome adjuncts they would be to our bridges. These, the most exposed portions of our roadways, cannot be crossed in wet and windy weather without great discomfort, which these covered ways would entirely obviate." I have drawn special attention to these words of Sir Aston's because I wish to apologise for my ignorance of them when I addressed you last year. It is a most surprising fact that no enterprising person discovered and drew my attention to my omission on that occasion, or since.

It gives me great pleasure to emphasise Sir Aston Webb's words by repeating them to night. I still adhere to my former belief in the desirability of street and shop bridges, but failing the possibility of these I think Sir Aston's suggestion should receive the closest consideration. Could not suggestions of this character be brought directly to the notice of our civic authorities? Surely it is advisable that the opinions of experts should be made known to these bodies.

A step towards that end was taken when at the close of last Session a Committee was appointed by the Council to deal with the architectural development of towns and suburbs. This Committee was appointed in accordance with a recommendation of the Art Committee, and in consequence of a statement in Parliament by the President of the Local Government Board to the effect that the Government had before them Bills "to carry out what is immediately pressing" on this important matter. A full Bill is promised at an early date.

\* JOURNAL, 14th April, p. 414.

The Art Committee were of opinion that this great question should receive the fullest consideration, and the Council entirely concurred in their opinion. It would be difficult to suggest a question of greater interest to architects, and affecting more intimately the art they practise, than this one of the development of towns. The business of the Committee will be to make themselves acquainted with the work in this direction that is being done by other countries, notably by Germany and by the United States.

During the last year we had several competitions which were of interest in many ways. I need not refer to that for the Hall of the London County Council except to say that it gave rise to much discussion and criticism, and to no little animadversion; but on the whole the conditions of this competition received the approval of the Institute. The result, as you are aware, is not yet known.

There are two other competitions, however, which I think call for some remarks from me.

There always has been and probably always will be a strongly antagonistic feeling towards the principle of selecting an architect by means of open competition. Generally speaking, I do not consider the arguments against competition to be either very sound or very convincing. I think it may be admitted that our art has made considerable progress during the last thirty or forty years, and during the last few years especially this progress has been very remarkable. The advance may not always have been in the right direction, and certainly much that has been done is open to adverse criticism. But results must be judged in a broad and generous spirit. The fact that open competition has been the rule is, I maintain, one of the causes why the art of architecture has advanced so wonderfully of late years. I therefore consider that, in spite of certain obvious drawbacks, open competition is beneficial to our art. I believe that our younger men are continuing the advancement of architecture in a manner quite admirable; and it is not too much to say that some of them, even the most distinguished, might have been left in obscurity had it not been that they were able to make known their genius by means of competition.

I have dwelt at length on the question of competition because I wish those who compete fully to understand that my sympathies are entirely with the competitor. They will therefore, I hope, listen with patience and forbearance while I make a few remarks, and those of an emphatic nature, in reference to two competitions which have recently taken place. I refer to those instituted by the Bethnal Green Local Board and the Acton Local Board, the latter being still in the open market. I use the word "market" advisedly, because in employing this term I wish to protest against the tendency to engage in competitions merely as a means of increasing business opportunities, and at the expense of what is due to our art and to our position as members of an honourable profession. It should be our aim to oppose what is harmful in the spirit of commercialism; we should not send our wares to any market that is open to us, regardless of whether the conditions are honourable to our profession or not. On the other hand if we enter into competition in a healthy spirit of emulation, and maintaining the just tradition and dignity of our profession; if the unsuccessful make generous acknowledgment of the deserved success of those more fortunate than themselves, then I think competition may be regarded as beneficial to our art, and also to those competing.

I have tried to indicate what may be called the ethics of competition, and the conditions under which competitions should be conducted.

It is with great regret that I feel called upon to refer in this connection to the want of judgment shown by certain architects in entering the competitions referred to above, that is to say, those instituted by the Bethnal Green and Acton Local Boards. I hope I shall have the sympathy of members of the profession of all ages and degrees in criticising the lack of perception of these competing architects.

The conditions published by the Bethnal Green Local Board were not at all in accordance with the suggestions issued by the Institute for the conducting of competitions. No guarantee was given that the successful architect would be employed, and it was stipulated that the remuneration should include any possible work in the way of arbitration, ancient lights, or any other legal question that might arise, in spite of the fact that these matters are never included in the recognised fees sanctioned by the Institute and by universal usage.

On being invited to nominate an Assessor my attention was drawn to these conditions, and I endeavoured to prevail on the Bethnal Green Board so to modify the objectionable clauses in their conditions as to meet the views of the Competitions Committee and of the Institute. But any possible influence the Council or the President might bring to bear on their attitude was very much weakened by the fact that architects were known to be preparing designs, and would submit them, notwithstanding the veto against the competition published in our JOURNAL. Eventually, however, and after several interviews, the Board acceded to my wishes; the competition was then placed on a proper footing, and I was enabled to nominate an Assessor.

When my decision to decline to appoint an Assessor was made public I received remonstrances from several architects, not always couched in courteous terms; these, however, entirely failed to convince me that my first decision was an unwise one, and I venture to think that my decision was justified by the sequel.

As I have before said, I am a believer in the system of competition, but I feel very strongly that those members of the Institute who enter the lists should do so in a spirit of honourable enterprise, and that they should be actuated by *esprit de corps*, and should loyally support the Competitions Committee called into existence by themselves and for the purpose of protecting their interests.

I fully appreciate the struggle many of us have to make to gain a practice, and the consequent desire to enter into competition, but competitions should be entered into only when the conditions are fair and reasonable. Those gentlemen who in a thoughtless manner consent to compete, while ignoring the usual conditions under which competitions are instituted, are doing an injury to their more conscientious brethren and lowering the tone of the profession.

With regard to the competition for the Acton Municipal Buildings, I must ask you to allow me to recall the circumstances so far as they affect the Institute. In the first place a competition took place which was adjudicated upon by Mr. Macvicar Anderson, and the successful architect, Mr. Hunt, prepared designs and obtained estimates. The lowest estimate, however, was in excess of the sum the Local Board had at its disposal, and the design was abandoned; Mr. Hunt was paid his fees for this work, and again instructed to prepare plans for a modified scheme. This he did, and a contract between him and the Local Board was then drawn up, the official seal of which was to have been affixed at the last meeting of the then Council. Attention, however, was drawn to the fact that this meeting had been called on the day after the official year had terminated, and therefore the stamping would be illegal. It was then arranged that the document should be sealed by the new Board. But the new Board determined to abandon Mr. Hunt's second scheme, and instituted a second competition. Mr. Hunt then applied for payment of his fees due on the work he had done. The Acton Local Board then took the extraordinary step of repudiating Mr. Hunt's just demands on the plea that their contract with him, approved and drawn up by the Board, was invalid by reason of the official seal not having been affixed.

The matter was first brought before our Competitions Committee and the Board of Professional Defence, and ultimately before the Council of the Institute. The Council agreed

with the recommendations of its committees that under the circumstances the competition should be vetoed, and a notice to that effect was put in the *JOURNAL*.

It was felt that if a public body could thus take advantage of a legal quibble there was nothing to prevent them recurring to the same tactics in the forthcoming competition, and that, in fact, it was inadvisable for any architect to have dealings with a public body who were acting in a manner which in a private individual would not be considered as honourable. It was also felt that as strong a protest as possible should be made against such extraordinary treatment of one of their brethren.

The Council having vetoed the competition, I of course could not nominate an Assessor when invited by the Acton Board to do so. I quite concurred with the action of the Institute.

I believe that some members of the Institute were not satisfied with my refusal to nominate an Assessor, and that, directly or indirectly, they were instrumental in bringing to the notice of the Acton Board the name of an architect who was willing to undertake the duties of Assessor. The result was that this gentleman was invited and has consented to act. I felt it my duty to place before him the facts of the case, but I regret to say that he was unable to take the view adopted by the Institute and by myself as President.

With regard to the necessity of architects demanding a sealed contract when employed by corporate bodies, my experience, and on inquiry I find that of others, is that such a practice is seldom resorted to. However, I understand that the appointment of the gentleman now acting as Assessor to the Acton Local Board is under sealed contract.

In July last an International Congress of School Hygiene was held in London, and I then had the honour of presiding over the Section devoted to School Building and Equipment. On this occasion many Papers were read, the greater number of them being in German. No doubt all these were of the greatest interest, but very small audiences were present, and I cannot help thinking that had the Papers been read in English the attendance would have been larger, and the discussions which followed would have been more apparent and more satisfactory. Among the work in other sections a Paper on the lighting and ventilating of classrooms, by Sir Aston Webb, calls for especial notice. This Paper dealt not only with the title-subject, but also with school-planning generally, and should be invaluable to architects engaged in school building.

It will be remembered that the Committee appointed to inquire into and to report on the condition of St. Paul's made an interim report, dealing with the proposal to construct a sewer, the site of which would have been in close proximity to the south-west corner of the Cathedral. This report had the desired effect of preventing possible disaster.

The full report to the Dean and Chapter was of a reassuring character, and allayed the public feeling of keen anxiety in regard to the stability of the church. I think the expression of concern from all quarters serves to show what veneration and love is felt for Wren's masterpiece.

It is with great pleasure that I announce a Paper on St. Paul's Cathedral shortly to be read before the Institute by Mr. Mervyn Macartney. We may confidently anticipate that this Paper will be one of absorbing interest, dealing as it will not only with the architecture but also with the rich and varied history and associations of the Cathedral.

The question of the destruction of the historic building known as Crosby Hall has occupied the attention of the public for many months. Its survival is justly considered of great importance from an antiquarian and historical, as well as from an architectural, point of view. Built in the year 1466, it remains almost the last example in the City of London of the continuity of English architecture before the advent of the Renaissance. Crosby Hall is one

of the few buildings in the City that antedate the Great Fire. It is therefore a most important link between our own time and the Middle Ages. I believe the only other genuine mediæval works remaining in the City are the Tower of London, the Chapel of Ely House, and the Temple Church, with its adjoining garden. For architectural and historical reasons the loss of any of these buildings would be irreparable.

The work in Crosby Hall is most excellent and instructive, the associations are of supreme interest, and the preservation of this fine building concerns not only architects but the nation at large. We cannot afford to denude our capital of every valuable relic surviving from former times. Much has been already destroyed that might well have been spared, and it is an inevitable consequence of progress that much will still be sacrificed. But though the London of to-day must of necessity lose many of the features that endeared it to Charles Lamb, to Dr. Johnson, and to others of bygone years, surely we cannot struggle too hard against the devastating spirit that would spoil us of one of our most ancient civic buildings. We cannot expect or desire to oppose the progress of our day, but it behoves us to preserve and cherish those of our ancient treasures that can be saved. Not much of Shakespeare's London is left to us, but the places I have mentioned are all alluded to in his plays, and this should be a strong, I had almost said a sacred, reason for maintaining and cherishing such a work as Crosby Hall. When we read that the Duke of Gloucester commands the Lady Anne of Warwick to "presently repair to Crosby Place," or again that he bids Catesby to meet himself and Buckingham there, it is pleasant to feel that some portion of this house is still in existence; that its pavement has been trod by those who are immortalised by Shakespeare and is still left to us of a more prosaic age. Perhaps you may quite rightly charge me with being prosaic in dwelling at length on this subject, but in venturing to do so I am actuated by the feeling that so little is left in this City of the works of our forefathers, and so little of that work is known by the general public.

We have still some portions left to us of the Chapel to Ely House in London, but of the house all has gone; the garden lives in our memories by the works of Shakespeare.

I am venturing on an innovation during the coming Session in respect to the duties which are generally considered to be the especial privilege of the President. You all know that it is his duty, and I may also add his pleasure, to give an Address to Students some time in February, and I had the honour of giving such an Address last Session.

It occurred to me, however, that in a second Address on the same subject I should more or less repeat the advice I gave in February last; and although repetition may sometimes have value, there is a possibility that it may descend to tediousness, and feeling this I ventured to approach a gentleman who not only feels the keenest interest in architectural education, but who also brings to the subject great experience and erudition. It is with the greatest pleasure that I now announce that Professor Lethaby has very readily and generously consented to deliver the Address to Students in February next. I am sure that not only the students but also the older members of the Institute will eagerly embrace an opportunity of listening to a Paper by such a learned and cultured architect.

This innovation in the work of the coming Session will not necessarily be followed by succeeding Presidents; they will of course act in accordance with their own judgment.

In bringing this short Address to a conclusion, I must ask the pardon of my audience if they think I have touched on subjects of too controversial a nature. I feel, however, that one cannot be too earnest or too candid in dealing with matters affecting equally the welfare of the Institute and the advancement of architecture.

## VOTE OF THANKS TO THE PRESIDENT.

Mr. JOHN SLATER [F.] said he had been honoured by the request to propose a vote of thanks to the President for his Address, and he did so with the very greatest pleasure. All the members of the Institute had looked forward to Mr. Collett's tenure of the Chair with confidence; that confidence had been more than realised, and he was sure they would all be united in wishing the President a very successful second year of office. The Address had been devoted largely to matters of domestic policy connected with the internal administration of the Institute. Allusion had been made to the new Charter, which, in consequence of difficulties that could not be foreseen and could not be controlled, was still in the making; but he was glad to think that what two years ago appeared to be very great and almost insurmountable difficulties had been smoothed over. It was certain that in arranging for a new Charter they could not satisfy everyone; but he ventured to hope that they would all sink their individual proclivities and do their best to get a practicable and workable Charter under which the Institute might go on with its proper work of fostering architectural education and furthering the interests of their art. With reference to architectural education, the President had not alluded to any of the work of the Board of Architectural Education which was so ably presided over by Sir Aston Webb. He was pleased to be able to state that that Board had met with much encouragement in its endeavours to codify and bring into line the various methods and systems of architectural education all over the country. The Board did not want any hide-bound uniformity, but they certainly thought that there should be a measure of congruity in the work of these architectural schools. It had been feared at one time that there might possibly be some antagonism between the Board of Architectural Education and the Institute Board, but he was very pleased to say that, as was so often the case, when these two bodies met and conferred together it turned out that the discrepancies were much more apparent than real—in fact, they practically resolved themselves into certain what might be called "terminological inexactitudes" in the titles of the papers. He held very strongly that the starting of the Institute Examinations had given an impulse to architectural education all over the country which nothing else could have done; but he had to confess that he himself, who had had a good deal to do with the Examinations—and he might say all the Examiners—had no great feeling of love or respect for examinations *per se*. The Council looked upon examination simply as the method of testing the education of the student, and they had lately done a good deal in the way of showing that they were willing to

accept examinations held by other bodies, universities, and the like as qualifying and exempting from the Intermediate. The Examinations must march with the times; but he had no doubt that the Board of Examiners would find little difficulty in bringing the papers set at the various examinations into consonance with the expressed views of the Board of Architectural Education. The President had alluded to the subject of competitions. He (the speaker) sometimes wished that the world could be deleted from their vocabulary. For the last twenty-five years he had taken a more or less active part in the concerns of the Institute; he remembered that twenty-five years ago acrimonious discussions as to competitions were continually taking place, and it seemed just as bad now. It was felt at one time that when the principle of an independent Assessor was acknowledged all difficulties would disappear, and that a halcyon time for competitors would ensue. Unfortunately, that desire had not been realised, and while human nature remained as it was he was afraid it never would be. It was certain that in any competition the man who had given the greatest thought to any design—that is, the author of it—was sure to feel that the person who had investigated the various designs sent in had not given quite as much attention to the good points of his design as he might have done, and that if there had been another Assessor probably the result would have been different. Perhaps that might be the case, and it was not an unpleasant thing sometimes to have a grievance; but was it always dignified to keep on airing it? He would strongly urge those gentlemen who took part in competitions to accept honourably the award of the Assessor, and not to be always endeavouring to contravene it. His (Mr. Slater's) experience and knowledge of Assessorships was that an Assessor went into his work with a great deal of diffidence; and when no *mala fides* could be suggested—and he was quite sure it was very, very seldom that there could be—he thought they ought to accept with good grace the award of the Assessor. They might possibly have heard the story of the chapel in the backwoods of America which had been presented with an organ, and the elders had great difficulty in finding anyone to play it. On the second Sunday when the chapel was opened the worshippers found a placard, in big letters, put up over the door, "Don't shoot the organist; he is doing his best!" He would recommend that motto to the people who went in for competitions with regard to the Assessor! Apart from matters of domestic interest, the President had alluded to a matter, which was of far more than domestic interest, which concerned the community at large and the nation at large—he referred to the question

concerning open spaces and the dealing with suburban areas. He held very strongly that the time had come when the Government should take this matter up—and that without delay—or they would be leaving to their descendants a legacy of troubles and difficulties far greater than they were suffering from now. It must be remembered that the congested areas and slum districts of to-day were the open spaces of fifty or a hundred years ago, and it was only necessary to take a walk or drive round the outskirts of this great city to see what was going on there. One might take beyond West Ham and Stratford on the east, down about Ilford; Cricklewood and Willesden on the north, Shepherd's Bush and Uxbridge on the west, and Clapham, Putney, and Wimbledon on the south, and they would see the same thing going on. Land came into the market which was ripe for building speculation, and it was taken by building speculators who put up row upon row of small houses, narrow streets with just the very minimum of space behind them which the not too drastic Building Acts allowed, and unless we took care these were the districts which would be the slum areas of the future. He thought that an Act ought to be passed empowering or almost compelling municipalities—because the same thing was going on, not only in London, but in Manchester, Bristol, Glasgow, and everywhere—when they saw that the land around their town was ripe for development, to purchase a certain quantity of that land and say definitely that that area should be left for ever open and not built upon. The County Council, it was true, had done very good work in retaining as open spaces parks as found existing, but as a rule these had been private houses and parks which they had been able to select for purchase. They ought to be able to go further than that; they ought to be able to create, and not only to preserve, open spaces around all our large towns. This was a rather tempting subject to dilate upon, but he feared he had already kept them too long, and he would only conclude by moving a very hearty vote of thanks to the President for his interesting and practical Address.

Mr. LEONARD STOKES [F.] said he should like to be allowed to second the vote of thanks. He thought he could claim that he had known Mr. Colcutt as long as, if not longer than, a great many of them present. His acquaintance with him began about the time that the Wakefield Town Hall Competition was in the air, and he might claim that he "assisted" Mr. Colcutt to win that competition. His assistance he would not exactly define, but it was principally blacking-in the plans which Mr. Colcutt had prepared. In connection with that competition it might interest members to know that Mr. Colcutt had made up his mind that he would win it, and he not only prepared one design, but also another.

He thought that perhaps it would be advisable not to send the second one in as an alternative, so he sent it in under an entirely different motto, and he altered the character of the printing and the colour of the strainers—in fact everything was different. Mr. Colcutt felt then perhaps that he had two magnificent chances—and so he had. Mr. Street, however, who was the Assessor, declared that both the designs were evidently by the same man, and he placed one first and told the promoters that if they liked to have the other that was first also. Mr. Colcutt, therefore, was placed first with either or both of his two designs, so that he won that competition twice over. That was perhaps an interesting fact not known to many members of the Institute, and he had ventured to recall it. He was not quite sure that he agreed with Mr. Colcutt—he hoped he might be excused for not doing so—in his theory that competitions were advancing the interests of architecture generally. He could not help feeling that competitions had a tendency to encourage clever paper designs without so thoroughly encouraging the study of the building itself as it would appear when erected. The competitor had to think what was likely to win the competition rather than what was likely to look well after the building was put up. He only ventured to suggest that as a possible danger. No doubt many capable men, like the President himself, had won competitions and carried out the buildings in a most able manner, but he rather doubted whether the general tendency was a satisfactory one, because no sooner had a man won one competition than he was off after another. He was not content with what he had got, and he did not devote proper time to working out his design thoroughly, as he was then looking after another win. That was as it might be; but he thought that what Mr. Colcutt had said, and what Mr. Slater had also emphasised, they all ought to bear in mind most earnestly, viz., that they were a body of architects, and he did not think, whatever they did, that they should engage in competitions the conditions of which were not thoroughly satisfactory and in accord with their own rules; and a competition having been once decided, they ought loyally to abide by the result. The human element must come into all these things. The Assessor did his best, and the competitor did his best, and if the Assessor did not quite agree with every man who thought he ought to win the competition, it was not his fault exactly, and the competitor might put it down as his misfortune. As Mr. Slater had said about the organist, the Assessor had done his best, and therefore he should be sympathised with, and his award should be loyally accepted. That part of the Address which dealt with the development of cities was most interesting, and he thought they all thoroughly agreed that there should be some great plan upon which they could work. If they did not do so

their grandchildren's children would heap maledictions upon them for not having laid down some plan. They all wished now that Wren's plan had been carried out; they looked upon it as a magnificent plan, which if carried out would have made London a splendid city; but in another hundred years' time people would be reviling us for not having produced a plan and laid down a scheme which could have been followed out without the enormous expense to which they would be put in pulling down the buildings put up to-day. Personally he could not help thinking that they ought to have very full and drastic powers to municipalise the whole country round London, and let the County Council or some other body have the full control of the development and laying-out of their streets and open spaces. Failing that, they ought to have at least a plan which they could lay before the public and say, "If you only had the power to carry it out, that is the sort of thing you ought to carry out; at any rate, there is something which is an ideal plan, and would enable future generations to have a city they might be proud of." But at present, with so many vested interests, such a scheme seemed almost utopian. However, if they could not municipalise the whole affair, let them, at any rate, crystallise the plan on paper, and produce something they might leave behind them. As to the reference to bridges, they all knew that Mr. Colcutt had his view on that subject, and he had reminded them of Sir Aston Webb's suggestion. If they could not have Mr. Colcutt's suggestion—and he was bound to admit that he saw difficulties, because the extra weight that had to be carried involved enormous piers and girders, and so on, and perhaps the engineers would object to the scheme—at any rate Sir Aston Webb's idea of the covered sidewalks, as the Americans call them, to the bridges would be a tremendous step in the right direction. Nothing was more disagreeable than to have to cross a bridge on a gusty, windy wet day; one got blown to pieces, and it was impossible to hold up an umbrella. He would not detain them any longer except to emphasise Mr. Colcutt's desire that the Charter matter should be brought to a speedy termination. A number of them had been working at it for years; they all had the welfare of the Institute at heart, and they wanted to get the matter settled in the best possible way. Nobody wished to keep the Associates out of their so-called rights; let them have their rights by all means; but the Institute must go on, and if they were kept stagnant for the want of a decision, it would be to the detriment of the interests of the Institute at large.

PROFESSOR BERESFORD PITE [F.] said that Mr. Leonard Stokes had almost taken out of his mouth the sentiments which, to a certain extent, he was about to struggle with when he came down to the room that evening, because he felt that the

enthusiasm the President's work created amongst the generation which was represented by Mr. Stokes and himself was something which with advantage might be brought to notice in connection with Mr. Colcutt's occupancy of the Chair. He should have felt himself in the seventh heaven if he had been allowed even to dip a brush into an indian-ink pot in the days when those Wakefield plans were prepared to assist in their formation. He could now recall the time when the daisy-patterned house in Fleet Street, now a thing of the past, appeared on the scene, and also many other charming works which showed extraordinary vigour and grip, and that peculiar power to design Gothic works as they really were supposed to be. He hoped the President would excuse him, but he had always been wanting to see one of his drawings, and he had never really been quite sure that he had. He remembered those exceedingly fascinating perspective drawings made out by Mr. Knight in early days. There was one thing that they were all certain of, and that was that the reputation which Mr. Colcutt established early in his career, now a long time ago, had been fully maintained; and if it had been rather a long step from that early stage to the Presidential Chair, it had been a step every foot of which had been in the direction of steady and accomplished progress. He thought the Institute, especially the younger members, were to be most cordially congratulated upon the fact that they had at last induced Mr. Colcutt to occupy the Chair for which he was so admirably fitted. One other thing he might say: the Chair of the Institute demanded something more than mere business experience, something more than mere tact in dealing with public bodies; it demanded a personal character which could sway a great profession, and that personal sympathy with the professional architect which could assume to direct and to guide him. Their President was necessarily something more than the representative either of London or of provincial architects, or of London and provincial architects put together, essentially a man with sufficient strength of character to take the initiative and speak his mind clearly and forcibly to his professional brethren, even, if necessary, with somewhat fatherly sternness. Might he suggest that the President had accomplished that admirably in his Address that evening? He hoped that the advice which had been so emphatically given would be accepted without question, and he was quite certain that it would be for the good of the profession if the President's remarks on competitions were taken solemnly to heart by those who would most profit by them. With regard to the condition of affairs generally in the Institute, he was one of those who were longing for the day when they should be able to forget their politics and resume their art. It seemed to him that there was an absence of high ideal in the architectural design of the present day. He did

throughout a long and distinguished career. I put this motion asking you with uplifted hands to approve in silence of such a letter being sent."

Mr. Edward Warren, F.S.A. [F.], asked leave before the meeting closed to thank the Hon. Secretary for his sympathetic references to his late master, Mr. Bodley. He (Mr. Warren) greatly appreciated the honour done to Mr. Bodley in his later years by the Institute, and he knew that all who, like himself, were associated with him would value the expressions of sympathy which the Institute had now expressed. He was little known either outside the Institute or in it; his intimates were few; but it was happily his (Mr. Warren's) fortune to be among that number, and one could not know him without appreciating his dignity of character, his dignity of presence, and his extraordinary and unique talent.

At the memorial service held at Holy Trinity Church, South Kensington, the Institute was officially represented by Mr. W. J. Locke, Secretary.

Mr. H. Dare Bryan [F.], Member of Council R.I.B.A., President of the Bristol Society of Architects, who represented the Institute at the funeral at Kinnersley, near Hereford, on the 25th ult., sends the following note of the ceremony:—

"The remains of the late Mr. Bodley were interred at Kinnersley, near Hereford, the home of Mrs. Bodley. The last scene was strangely simple and pathetic; in the little country church a couple of hymns were sung by the choir of white surpliced boys and village girls in their simple every-day clothes, the fading light of the early autumn evening—for the burial took place towards five o'clock—being aided by candles which lighted up the decoration of the interior, evidently the work of the deceased artist. A little procession then wended its way to the graveside near a magnificent old yew tree at the south-west corner of the churchyard, where the committal portion of the service was read by his nephew, the Rev. H. B. Bromby, of All Saints', Clifton.

"In addition to the widow, only son, and near relatives, there were present a little band of mourners, most of whom had been intimately associated with Mr. Bodley's life work, amongst them Mr. Hare, his partner; Mr. George Gilbert Scott, Mr. W. J. Tapper, Mr. G. B. Kett, of Cambridge; and his faithful clerk of works, Mr. A. Green. The Royal Institute and the Liverpool Cathedral Committee were also represented.

"The close of a long and fruitful life should bring no distressing signs of mourning, but knowing the great opportunities just opening out to crown the career of the dead architect, one's thoughts could not but dwell on the shortness and incompleteness of life compared with the work to be done. To architects, perhaps, more than any other artists may old Chaucer's line be applied: 'The lyfe so short, the craft so long to lerne.'"

### The New Institute Medal.

The President last Monday evening made the formal presentation of the new Medal which has been designed for the Institute by Mr. George Frampton, R.A. [H.A.]. This is to be the model of the Silver Medals awarded by the Institute for the Essay and Measured Drawings in the annual Prize Competitions. The old model had long been out of date, the reverse bearing the title "Institute of British Architects" instead of "Royal" Institute, the title granted by Royal favour in 1866. Mr. Frampton had been approached by the Council with a view to his making a new design, and he generously responded by presenting to the Institute a charming design, and superintending the striking of the dies. The accompanying illustration [p. 15] is a photographic representation of the new Medal; it will be seen that the reverse side now bears the Institute seal. The President, in making the presentation, referred to the Medal as a very beautiful work of art, and said that it would be an incentive to the future student not only to gain the prize for the sake of the Silver Medal of the Institute, but also to gain the possession of a very great work of art. On the motion of the President the Meeting passed by acclamation a very cordial vote of thanks to Mr. Frampton for the beautiful design he had made for the Institute, and for the trouble he had so kindly taken in superintending the execution of the Medal.

### Allied Society at the Cape.

The preliminary business at the Opening Meeting included the announcement by the President that the Council had admitted the Cape Institute of Architects to alliance with the Royal Institute under By-law 77.

The Cape Institute, which was founded between eight and nine years ago, consists of three classes of members—Fellows, Associates, and Hon. Fellows. The membership at present numbers thirty, of whom fourteen are members of the parent Institute in London. Mr. Francis Masey [F.] is President; Mr. John Parker [F.], Vice-President; Mr. T. H. Hitchin, Hon. Sec. and Treasurer; Messrs. A. Forsyth, F. K. Kendall [A.], T. A. Sladdin [F.], and C. H. Smith [A.], Members of Council.

The Cape Institute met specially on the 16th July last to consider this question of affiliation. The meeting decided that such a connection was desirable, and the Cape Council were authorised to take the necessary measures to bring about the alliance. The preliminary steps to this end were taken in London by Mr. Arthur H. Reid, Hon. Sec. R.I.B.A. for S. Africa.

The R.I.B.A. Schedule of Professional Practice as to Charges has been recently adopted by the Cape Institute with some variations necessitated by the different conditions of the country.



REVERSE



OBVERSE

THE NEW INSTITUTE MEDAL FOR ESSAYS AND MEASURED DRAWINGS.  
DESIGNED AND PRESENTED TO THE INSTITUTE BY MR. GEORGE FRAMPTON, R.A. [1881]

### The Statutory Examinations.

At the Examination of candidates for Certificates of Competency to act as District Surveyors in London held by the Institute pursuant to Section 140 of the London Building Act 1894 on the 17th and 18th October last, fifteen candidates presented themselves and were examined, and the following seven passed :—

THOMAS JAMES BEE, Heath View, Sidcup, Kent.  
PERCY BOOTHROYD DANNATT, 92 London Street,  
Greenwich, S.E.

ROBERT HENRY JEWERS MAYHEW, Edmonds-  
bury, Genoa Road, Anerley, S.E.

HENRY BLINMAN MACKENZIE, 8 Warwick House  
Street, S.W.

JOHN DOUGLAS SCOTT, 28 Bedford Row, W.C.

THOMAS PEBBIVALE TINSLEY, 30 Redburn Street,  
Tudworth Square, Chelsea, S.W.

STANLEY TOWSE, 8 New Square, Lincoln's Inn,  
W.C.

### National Registration of Plumbers.

Mr. W. D. Caroe, M.A., F.S.A. [F.], Master of the Plumbers' Company, presided at the first meeting of the new General Council for the National Registration of Plumbers, held at the Guildhall on the 21st inst. Mr. H. D. Searles-Wood [F.] attended on behalf of the Institute. Other Societies represented were the Association of Water Engineers, the Society of Medical Officers of Health, the Association of Municipal and County Engineers, and representatives from the principal Plumbers' Associations throughout the kingdom.—The Chairman referred to the principle of co-operation which had united the official and professional representatives of the public with the representatives of the plumbing trade in the effort to raise the qualification and status of plumbers and safeguard the public health. It was now generally recognised that there should be, in the interest of the community, a recognisable qualification for plumbers and a definite responsibility resting upon them. The public service required a body of registered plumbers. Such a body was now in existence, and it was for the General Council to strengthen that body and establish it in the confidence of the authorities and the public. Until plumbers had a recognisable qualification known by public registration, it was impossible for them or for the public to be protected against unqualified men.—The subjects discussed by the General Council included an extension of the functions of the Council, the desirability of urging on local authorities, by means of deputations, the advantages of the registration of plumbers in the interests of the public, and the

establishment of a benevolent scheme for aged and incapacitated plumbers in connection with the registration movement. A Management Committee to conduct the administration and finance of the movement was appointed, Mr. H. D. Searles-Wood [F.] being among the members elected to serve.

### The Crosby Hall Preservation Scheme.

The anonymous contributor of the magnificent sum of £20,000 has given much-needed stimulus to the movement for the preservation of Crosby Hall. A considerable sum, however, has still to be guaranteed if the preservation scheme is to succeed. The fund now stands at about £50,000. The *City Press* of last Saturday hints that the project is not receiving all the support that was hoped for from the City. "An analysis," it says, "of the published list of subscriptions reveals the melancholy fact that the members of the Corporation are not doing their part to forward the scheme. Is local 'patriotism' dead, or do the Corporators not recognise that money is earnestly needed to save this beautiful building? Only two Aldermen and a few Councillors have, so far, subscribed. There is yet time for this unfortunate state of affairs to be rectified. It would indeed be a disgrace if the citizens left the major part of the money to be found without their ranks."

Mr. W. D. Caroe [F.], in a letter to the *Times* a few days ago, draws attention to the point that we have many records, religious and civil, of the remarkable building activity and acumen of the Middle Ages. "In Crosby Hall," he goes on to say, "we have the sole remnant of a great City merchant's princely residence. If by ill-chance we lose a church or country residence, still others remain. Here we have left by good chance a single and final example of its kind. It is to be hoped that Londoners will be alive to what they are on the point of losing irrevocably."

The directors of the Chartered Bank have granted a further extension of time to the 14th November.

### Honours and Appointments.

Mr. JOHN SLATER [F.] has been appointed Chairman of the Board of Examiners (Architecture) in place of Sir Wm. Emerson [F.], resigned.

Mr. R. SELDEN WORMUM [F.] has been appointed Member of the Board of Architectural Education.

Mr. HUGH STANNUS, A.R.C.A. [F.], was sworn in as Under Warden of the Worshipful Company of Founders on the 28th ult. This ancient Livery Company has an honourable record for six centuries, in supervising the purity of metals, the correctness of weights, and in civic and charitable works.

## ARCHITECTURAL REFINEMENTS.

## A REPLY TO MR. BILSON.

By WM. H. GOODYEAR, M.A.

Hon. Member Society of Architects of Rome; Hon. Member Edinburgh Architectural Association; Hon. Member Royal Academy of Fine Arts of Milan; Hon. Academician Royal Academy of Venice; Corresponding Member American Institute of Architects.

THE purpose of this Paper is to make some reply to an article by Mr. John Bilson which appeared in the June number of this Journal for 1906.

The exact title of Mr. Bilson's article might not appear to have serious importance in the controversy which it has opened up, but it so clearly indicates the bearing of his argument, as expressly rehearsed by himself, that I shall not hesitate to call attention to its wording, and especially to its quotation marks. The title runs as follows: "Amiens Cathedral and Mr. Goodyear's 'Refinements': A Criticism."

When the quotation marks of this title are related to the opening and conclusion of Mr. Bilson's Paper, it will be found that they imply not only that there are really no refinements at all in the Amiens Cathedral, as supposedly observed by me, but also that there are really none at all in any of the other cathedrals and churches which were represented in the Edinburgh Exhibition of Architectural Refinements.\*

The reception accorded this exhibition is stated by Mr. Bilson to have inspired his Paper. He is careful to point out that the list of patrons does not in itself furnish any indication of the opinions of such patrons about the asymmetries which were represented by the exhibition, which must certainly be admitted. He is careful to raise the question (but careful not to decide it) whether the success of the exhibition may not have been, on the whole, a *succès d'estime*; but he nevertheless confesses that "some of our Scottish colleagues have received its teaching with something like enthusiasm," and he consequently feels called upon to ask "whether we are justified in accepting such teaching." His conclusion is an emphatic negative, but just what the teaching is which we are not to accept Mr. Bilson does not state accurately or carefully, excepting that it is represented by this Brooklyn Museum loan of exhibits at Edinburgh which Mr. Bilson does not appear to have seen, or if he has seen them he is careful not to mention it. Anything, however, which Mr. Goodyear has published or done in architectural research may be safely discarded, in Mr. Bilson's opinion, as unworthy of notice, and is con-

sequently fit to be labelled by that most deadly and exquisitely contemptuous anathema which is conveyed by the use of the quotation marks in the title of the article.

Mr. Bilson is also careful to mention "the large number of churches" covered by my investigations as making it "difficult to test" my "theories," or to arrive at a definite and final summing-up of the whole case in a short general Paper." Mr. Bilson has solved this difficulty by the use of quotation marks in his title. Otherwise, and aside from the contemptuous opinion which is conveyed by the quotation marks, he explicitly states that on account of "the large number of churches covered by his investigations . . . I do not propose to roam at large over the entire area of review," but none the less he says: "The object of this Paper is to give a 'definite answer' to these questions," viz. "whether we are justified in accepting such teaching [as that of the Edinburgh Exhibition], or am I right in believing that the chief value of Mr. Goodyear's investigations will be found in the fact that they repeatedly afford in themselves evidence in disproof of the theories which he bases upon them?" This "definite answer" will not, however, roam over "the entire area of review." "I shall confine myself entirely to what Mr. Goodyear has written about the churches of Northern France and almost entirely to a single typical cathedral."

Mr. Bilson has thus made things easy for himself, but he is not willing to make them correspondingly easy for me. He is disposed to limit his field of inquiry, but he is not disposed to limit the sweeping character of his conclusions and condemnation.

He has so strictly kept to his plan of limiting his own "area under review" that seventeen pages are devoted to Amiens Cathedral, while three pages are devoted to a debate about deflected plans and to brief notes on a very few French churches outside of Amiens. One page is devoted to his preface, from which I have quoted.

He has so closely kept to his plan of limiting his own "area of review" that not one Italian building is even mentioned, and that not one of my publications on Italian churches is quoted, either in footnote or otherwise. As far as Mr. Bilson's Paper is concerned no one would know

\* Opened by the Edinburgh Architectural Association in the Scottish National Portrait Gallery, 6th September 1905, closed 11th November.

that I had ever surveyed or photographed or published an Italian building.

This is the method of "definite answer" to the teaching of an exhibition which included only seven French churches, as against forty-five Italian churches, three churches in Constantinople, one in Germany, and six ancient temples. This is the method of "definite answer" to the teaching of an exhibition which allotted 41 photographs to France, and which allotted 226 photographs and surveys to Italy, which allotted 3 photographs to Amiens, and which allotted 42 photographs and surveys to the Pisa Cathedral.

The omission of *seventeen* of my most important publications on architectural refinements from Mr. Bilson's own perusal, mention in text, or footnote bibliography, is a curious and almost incredible illustration of his temper and attitude. Those omitted are the ones referring to Italian and classic buildings. On this head the bibliography of the Edinburgh Catalogue may be compared with Mr. Bilson's alleged bibliography, which is given in one of his footnotes (p. 400). He does not expressly say that he has quoted all my publications on refinements, but he very expressly leaves it to be inferred and understood that he has quoted all which need be examined before giving a "definite answer" to the teaching of the Edinburgh Exhibition.

This assumption is preposterous. If a critic were desirous of testing the general value and character of my investigation by confining his attention to a single typical building, fairness and common sense would suggest the choice of the building which I have most carefully surveyed and described, and which had the largest number of exhibits at Edinburgh. This is the Pisa Cathedral, which was represented by forty-two exhibits, as just mentioned. No other mediæval building has ever been so carefully surveyed, and Mr. Bilson's failure either to mention any of the Pisan exhibits at Edinburgh or to mention any of the publications in which they were reproduced and carefully described is an inexplicable omission in view of his sweeping conclusions.

Another reason suggesting this choice of the Pisa Cathedral is that my investigation of mediæval architectural refinements was originally suggested by this cathedral and originally began there (in 1870). Not only was the Pisan Romanesque the actual point of departure for my own studies in this special investigation, but it must always remain the logical point of departure for every systematic examination of mediæval asymmetry, because the material is far richer and the phenomena are far more numerous than elsewhere.

Moreover, the argument for the historic derivation of certain mediæval refinements from those of antiquity can only be presented through the Italian buildings which show marked Græco-Byzantine

influence, and these are notoriously, and above all others, the Pisa Cathedral and St. Mark's at Venice.\*

Any critic is privileged, of course, to select any church as a subject of debate, and no one could complain that Mr. Bilson's criticism has selected the Cathedral of Amiens as a matter for discussion; but it is a very sad indication of his prejudice and bias, and of his want of discretion, that he should be willing to base a wholesale condemnation of the given architectural investigation on the assertion that I have made a mistaken observation in one cathedral. This is, however, his avowed position, for Mr. Bilson assures us, in his closing and final sentence, that "when the other French churches investigated by Mr. Goodyear have been the subject of monographs as exhaustive as that of M. Durand at Amiens, there will be no difficulty in producing equally conclusive proof that their 'refinements' exist only in Mr. Goodyear's imagination." Certainly there will be no difficulty, as far as Mr. Bilson is concerned, even in advance of the happy day when every church has its own monograph in two enormous volumes. There will be no difficulty, because there has been no difficulty. Mr. Bilson's word is as good as his bond. He knows very well that these monographs will never be written, and by assuring us of what would happen if they were written he evidently makes it unnecessary, for his special purpose, that they ever should be written. Thus does a single good monograph serve the cause of truth and of Mr. Bilson for a large number of churches. These include the Edinburgh exhibits for forty-five churches in Italy and the seventeen publications about them which Mr. Bilson did not think it worth while to mention, because he has heroically resolved to confine himself to the French churches and "not to roam at large over the entire area."

If the distribution of the various classes of phenomena so far observed were asserted to be locally uniform and regular throughout mediæval work; if the mediæval churches were asserted to exhibit generally an equally large variety of phenomena when one cathedral is compared with another; and if the churches of France had been as widely and as thoroughly examined as those of Italy, Mr. Bilson's summary method of limiting his area of inquiry without limiting his area of conclusions might have some show of reason. As matters actually stand,

\* The accidental destruction of most of the blocks belonging to the *Architectural Record Magazine* (in which the Pisa Cathedral surveys were originally published) made it impossible to illustrate these surveys in the pages of the *Edinburgh Catalogue*. The Catalogue illustrations offered a partial memento of the exhibition to those who had seen it, but they were actually a make-shift choice in consequence of the wholesale destruction just mentioned, and very poorly balanced in consequence, relatively over-numerous for some particulars and wholly deficient for many others. It need hardly be pointed out that a catalogue cannot be expected to take the place of the exhibition to which it is a guide.

his method has no show of reason. Certain classes of phenomena appear to be strictly limited, even within the area of Italy, to the Pisan Romanesque. Outside of the Pisan Romanesque the variety of phenomena is much greater in the Romanesque of Italy than it is in the Italian Gothic. These matters have been carefully explained in the publications which Mr. Bilson has refrained from mentioning, and which he has possibly refrained from reading. On the other hand, in the publications for the Gothic of Northern France which Mr. Bilson has formally quoted, it is expressly explained that the French Romanesque of the south and centre has not been examined. It has also been expressly explained that the time occupied in Northern France was necessarily limited to eight weeks in 1903 (one week in 1905), during which short time 330 photographs were taken and other classes of surveys were correspondingly limited.\* It has also been expressly explained that in the Gothic cathedrals of Northern France only one class of phenomena has, generally speaking, been noticed, and that the exceptions observed were almost wholly limited to one church—viz. Notre-Dame at Paris—in which a much greater variety of phenomena were found.

In face of these repeated and time-worn explanations, it is not an encouraging indication of Mr. Bilson's acumen or grasp of the subject-matter which he is attempting to handle, to find him insisting that the Amiens Cathedral, as a "typical" cathedral, ought to show all the refinements, and that if it does not, this is an argument against the general results of the investigation. Mr. Bilson can hardly be aware that the temple of Phigalia and the Parthenon were built by the same architects, Ictinus and Callicrates, and that the temple of Phigalia is destitute of the Greek refinements, as is also the Erechtheum on the Athenian Acropolis. If such a remarkable contrast of practice existed within the limits of Greek art and within the individual practice of its most famous architects, why should it not occur also in mediæval work? Mr. Bilson's equipment as a debater may thus be argued from his wholly inadmissible position that if all the refinements are not found in all the mediæval buildings, or in all the important ones, they cannot really exist in any. On the contrary, if the Pisa Cathedral exhibits phenomena which cannot be found in Notre-Dame, and if Notre-Dame exhibits phenomena which cannot be found at Amiens, this is good corroborative evidence for other proofs that their phenomena are not imaginary or accidental. Our reviewer, however, ridicules the idea that Notre-Dame should have refinements which cannot be found at Amiens. My own suggestion (aside from the one which he quotes, and which I do not retract), would be that Notre-Dame stands in much

closer relations to the Romanesque, to which several of the refinements observed in Notre-Dame appear to be confined, when the Italian buildings are included in the comparison of phenomena.

We are thus led to point out that Mr. Bilson's self-set limitations in his effort to give a "definite answer" and a black eye generally to the teaching of an investigation which he appears not to have thoroughly examined, and in many particulars not to have examined at all, have resulted in an absurdly incorrect and deficient summary of the phenomena which he has attempted to classify.

Thus Mr. Bilson's preface continues, from the sentence last quoted about limiting himself to "the churches of Northern France and almost entirely to a simple typical cathedral," as follows:—

"The Irregularities which Mr. Goodyear claims as intentional 'refinements' may be roughly divided into two classes:

"1. Obliquity of alignment in plan, including want of parallelism in walls and piers, deflections of axis, curves of alignment, . . . and asymmetric plans generally.

"2. Walls, piers, and columns out of plumb, sometimes straight, but more generally described as 'vertical curves.'

"I do not suggest that this classification includes all the irregularities which Mr. Goodyear believes to be refinements, but it covers the great majority of the examples noted by him in his publications, and those which it does not include are not material to the examination which is the immediate object in view."\*

Now the "examination which is the immediate object in view" has been explicitly announced by Mr. Bilson as intended to give a "definite answer" to the question "whether we are justified in accepting" the teaching of the Edinburgh Exhibition. This being so, let us inquire, for example, of Mr. Bilson how far his classification covers the forty-two Edinburgh exhibits for the Pisa Cathedral, as also carefully described in the various publications of the *Architectural Record Magazine* which Mr. Bilson has failed to mention.

The *Building News and Engineering Journal* of 22nd September 1905 says of these Pisan exhibits, which the editor had personally examined in Edinburgh: "In Pisa, particularly, the idea of creating false perspective effects seems to have taken full possession of the architect. The divergences, particularly those of elevation, have evidently been carefully devised with a definite object—that of making a small building appear to be imposing—and they have been successful." Let us now inquire what other churches, as represented in the Edinburgh Exhibition, may fall outside of Mr. Bilson's classification, as also representing perspective illusions. In the index of the *Edinburgh Catalogue* I find that eighteen churches, out

\* The above matter was written before the recent survey work of this year was undertaken in Northern France.

\* The italics are mine.—W. H. G.

of forty-five Italian churches—that is, just about one-third of all the buildings in the entire exhibition—were selected to represent perspective illusions. (See “Perspective Illusions” under “Index of Exhibits according to Subject-matter,” p. 150.) The index of the *Edinburgh Catalogue* does not therefore appear to be in harmony with Mr. Bilson’s assurance that his classification “covers the great majority of the examples” noted by my publications. One of the most important of my publications which he therefore appears to have overlooked or to have forgotten is “Perspective Illusions in Medieval Italian Churches,” in the *Architectural Record*, vol. vi., No. 1 (1896). This publication is quoted in the *Edinburgh bibliography* which Mr. Bilson must be presumed to have read. My original announcements on this subject were made in *Scribner’s Magazine* for August 1874, under the title “A Lost Art.” Favourable critiques of these observations were published by G. A. T. Middleton in the *Nineteenth Century Magazine* for March 1897, “Deliberate Deception in Ancient Building”; and by C. J. MacCarthy (City Architect of Dublin) in a Paper read before the Royal Institute of the Architects of Ireland, and published, with numerous illustrations, in the *Irish Builder* of 1st February 1899, under the title of “Intentional Irregularities in Medieval Italian Architecture.”

The existence of perspective illusions in mediæval architecture has also been formally accepted and affirmed by the high authority of Choisy and Enlart, as well as by the *Dictionary of Architecture* published by the Architectural Society.\* Inasmuch as one-third of the buildings in the Edinburgh Exhibition were devoted to perspective illusions, it would certainly appear that Mr. Bilson has not given me what Mr. Roosevelt would call “a square deal.” My publications on this subject long precede those of the French and English authorities quoted, my earliest one dating back to 1874, as just mentioned. My publication of 1896 on this subject also precedes the mentions of Choisy and Enlart. It was the formal opening of my general report on the Brooklyn Museum surveys of 1895, and immediately followed the article giving an introductory summary account of the results of that expedition. The Italian examples described and surveyed by me are far more numerous than those quoted by the French authorities mentioned. Their instances, however, are found in France (with

one exception), and yet Mr. Bilson’s title does not shun the designation and quotation marks of “Mr. Goodyear’s Refinements,” with which he should hardly venture to publicly insult his French colleagues.\*

Mr. Bilson is undoubtedly thoroughly familiar with the quoted publications of M. Choisy and Enlart, especially as his own work at Durham has been so much praised by the latter authority. He also pretends to be conversant with my own writings. Would it not, therefore, have been a fairer and wiser procedure if Mr. Bilson had included in his classification of “Mr. Goodyear’s Refinements” those which had been independently announced by such high authority? But the tale of Mr. Bilson’s delinquencies as a summariser and classifier is not half told as yet.

It has been pointed out by many students of my work that Mr. Ruskin is my predecessor in a very important class of observations, and I have always been ready to acknowledge this precedence, and have always been anxious to call attention to it.† This class of observations is also ignored by Mr. Bilson, who, notwithstanding, persists in speaking as though he knew my publications, and were qualified to summarise them for the benefit of the British public. Once more it will be noticed that the omission relates to a class of phenomena which have also been observed and announced by an authority of distinction. That the relation asserted to exist between Mr. Ruskin’s work and one phase of my own is not imaginary may be best shown by quotations from other writers. For instance, Professor Charles Eliot Norton, Emeritus Professor of the History of Art in Harvard University, was a personal friend of Mr. Ruskin, and has published his correspondence.‡ Professor Norton said of my quoted publication of 1874 in *Scribner’s Magazine* that it was “the most important contribution to the topic since Ruskin wrote *The Seven Lamps of Architecture*.” § *Macmillan’s Dictionary of Architecture and Building*, edited by Dr. Russell Sturgis, opens its article on “Refinements in Design” as follows: “With regard to mediæval buildings, the existence of apparently deliberate irregularities in measurement was pointed out by Ruskin in the *Seven Lamps of Architecture* and in the *Stones of Venice*, and Viollet-le-Duc in the *Dictionnaire de l’Architecture Française*, s. v. *Trait* (vol. ix.). There has been, however, no such comprehensive investigation as that undertaken by Professor W. H. Goodyear, of which the results were

\* Choisy, *Histoire de l’Architecture*, vol. ii. pp. 184, 410 (1899); Enlart, *Manuel d’Archéologie Française*, p. 58 (1904); *The Dictionary of Architecture*, published by the Architectural Society, London, vol. v. p. 18, under “Optical Refinements” (no date, about 1882). Choisy quotes Arles, Civray, Payerne, Poitiers, Montréal, Orbais, Rheims, S. Maria Novella, Florence. Enlart quotes Nesle, Boulogne, Civray, Poitiers, Montréal, Orbais, S. Maria Novella. *The Dictionary of Architecture* quotes Saint-Gilles, Erbach, S. Maria Novella.

\* Mr. Bilson is also careful to distinguish between what he calls “real refinements,” viz. those observed at Amiens by Viollet-le-Duc, and those observed by me.

† *Edinburgh Catalogue*, p. 20.

‡ Ruskin, John; *Letters to Charles Eliot Norton*, 1904, 2 vols. Houghton, Mifflin, & Co.

§ *Church Building in the Middle Ages*, by Professor Charles Eliot Norton, p. 321 (1880).

published in part in the *Architectural Record* (vols. iv.-vi., vii., ix. New York)."<sup>\*</sup>

These two references may be sufficient to indicate that Mr. Ruskin first observed a class of phenomena to which I have made wide additions; and as Mr. Bilson's classification palpably omits these phenomena, I am obliged to indicate them myself—first, by quoting from Mr. Ruskin; secondly, by mentioning the number of churches and exhibits shown at Edinburgh for these phenomena; and thirdly, by mentioning the special publications in the *Architectural Record* which were devoted to them.

In the *Lamp of Life* Mr. Ruskin speaks of "accidental carelessness of measurement being mingled indistinguishably with the purposed departures from symmetrical regularity. . . . How great, how frequent, they are, and how brightly the severity of architectural law is relieved by their grace and suddenness, has not, I think, been enough observed." After a series of observations he continues: "I imagine I have given instances enough, though I could multiply them indefinitely, to prove that these variations † are not mere blunders nor carelessness, but the result of a fixed scorn, if not dislike, of accuracy in measurements; and in most cases, I believe, of a determined resolution to work out an effective symmetry by variations as subtle as those of nature."

In my article on "Constructive Asymmetry in Mediæval Italian Churches," which is ignored by Mr. Bilson,‡ I have published and analysed a series of designed irregularities in the measurements of arcades in Italian churches, similar to those observed by Mr. Ruskin, as follows: Palaja (near Pontedera), interior arcades of the nave; S. Michele ai Scalzi, Pisa, arcades of the façade; S. Paolo, Ripa d' Arno, Pisa, the north wall; Cathedral of Pisa, the north and south walls; Cathedral of Prato, the south wall; Cathedral of Troja, the south wall; interior arcades in the Cathedrals of Siena, Cremona, and Fiesole; interior arcades in the Churches of S. Maria and S. Pietro, Toscanella, of S. Nicola at Bari, of S. Maria della Pieve at Arezzo, &c.

These were all represented by surveys in the Edinburgh Exhibition, except Palaja and the façade of S. Michele ai Scalzi, and two additional churches were included there for designed irregularity of exterior arcading, viz. the churches of the Pieve Vecchia and Pieve Nuova at S. Maria del Giudici, near Lucca. Where the above summary quotes buildings which also exhibit perspective illusions, or oblique plans, it will be understood that none have been mentioned which have not been expressly published as also exhibiting arcadings which are demonstrably irregular by intention,

aside from the perspective illusive arrangements or aside from obliquity. For example, the arcades at Fiesole descend toward the choir three feet, and the spacings narrow toward the choir eight feet; and in that sense the irregularity produces perspective illusion, but the church is quoted in the above list because "both arches of the second bay are higher than the first, both arches of the third bay are lower than the second, both arches of the fourth bay are higher than the third, both arches of the fifth bay are lower than the fourth, both arches of the sixth bay are higher than the fifth, both arches of the seventh bay are lower than the sixth."<sup>\*</sup> S. Michele ai Scalzi has an interior perspective illusion † but it also has the façade measurements to be presently described.

My general conclusion drawn from the comparison of arcadings was as follows, and corresponds with Mr. Ruskin's in result, if not in method: "From the facts so far brought out in this part of the argument it appears that a purpose can be proven in many irregular arrangements of the Italian Romanesque, first by showing that correspondences of irregularity can be used as proof of intention; secondly, by showing that there are means, in many cases, of fixing a limit of error due to accident; thirdly, by urging the point that we cannot admit the purpose of definite schemes in one part of a church and assert at the same time that the builders did not know what they were doing in another part. We have, for instance, such proofs of the use of the same definite schemes in both gallery levels of the Pisa Cathedral in some cases as to indicate that a different scheme was purposely employed in each gallery in other cases."<sup>‡</sup>

For the nature of the evidence otherwise submitted I will only quote the churches at Palaja and of S. Michele ai Scalzi at Pisa. Of Palaja I wrote in 1897: "The perspective deceptions so far quoted in the preceding issue bear, on the face of things, that evidence of design which is furnished by a scheme, i.e. by an arrangement of measurements which the law of chances would lead us to suppose could not be accidental in one case, and which certainly could not be accidental when found in a series of repetitions. But evasions of regularity were also practised from a definite artistic feeling and purpose, and generally without the design of obtaining an effect of dimension by palpable trickery. Here is an illustration from the basilica at Palaja. The measures taken to centres for the interior pier spacings, in metres and centimetres, on one side of this church, beginning at the entrance and moving toward the choir, are as follows: 4.92, 4.87, 5.11, 4.86, 4.92. These measures

<sup>\*</sup> *Architectural Record*, vol. vi. No. 2 (1896), one of the publications ignored by Mr. Bilson.

† Exhibit 119, *Edinburgh Catalogue*, and *Architectural Record*, vol. vi. No. 3, fig. 24.

‡ *Architectural Record*, vol. vi. No. 3. Publication ignored by Mr. Bilson.

<sup>\*</sup> None of these volumes, containing eleven articles, are quoted by Mr. Bilson, who refers only to the later articles on French cathedrals in vols. xvi. xvii.

† Viz. those which he has carefully described.

‡ *Architectural Record*, vol. vi. No. 3 (1897).

were taken hastily, and yet the first bay and the last bay tally exactly: the measurements next adjacent tally within a centimetre. The middle bay is largest by 24 centimetres, or, say, 10 inches. We will not debate the purpose at present. The proof is the proof of intention. Where is the objector who will say that the larger arch is due to careless building when the measures tally within a centimetre on either side of it?" Of S. Michele ai Scalzi, which has a typical Pisan-Romanesque façade, I wrote as follows: "The measures for the arcades of the exterior façade are here given in metres and centimetres: 2.27, 2.36, 3.33, 2.36, 2.30. The centre measure represents the arcade of the doorway. On either side of it the arcades diminish in span in corresponding gradation." These measurements prove that an allowance of 3 centimetres, or a little over one inch, will represent the amount of error here due to carelessness. They also indicate a purposed grading of dimensions in corresponding pairs away from the central arcade, showing the same kind of feeling which Mr. Ruskin long since instanced in his measures for the Pisa Cathedral façade.

Without mentioning particulars in other instances I will simply say that there were exhibits for not less than fourteen Italian churches in the Edinburgh Exhibition which represented this particular class of intentional asymmetries which is omitted from Mr. Bilson's classification. This number of churches is double that of all the French buildings, and one-third that of all the Italian buildings, which were represented in the exhibition. However, we have already found Mr. Bilson assuring his readers that his classification "covers the great majority of the examples noted" in my publications, "and those which it does not include are not material to the examination which is the immediate object in view." The "immediate object in view" is avowedly and obviously to discredit the Edinburgh Exhibition. Whether fair means have been employed to this end may well be left to the judgment of the impartial reader.

It is to be remembered that the series of *Architectural Record* articles from which I have been quoting constituted a preliminary report on the Brooklyn Museum surveys of 1905, covering a period of six months' work in Italy, during most of which time I had the assistance of a thoroughly qualified architectural surveyor and expert in engineering construction. Consequently the order of arrangement of subject-matter in which these articles appeared may be considered significant for the order in which I desired to lay these observations before the expert public. It appeared desirable to me, at that time, to publish first the phenomena which were the least open to debate, either on account of inherent probability, or on account of weight of demonstration, or on account of the support to be obtained from the independent similar announcements of other authorities; for what two

or more observers have independently remarked has more weight than what only one observer has announced. Hence it is significant, for my own view of these matters, that the original *Architectural Record* articles on the surveys of 1895 were prepared and arranged in the order to which I now call attention. The articles were, namely, so arranged as to place in the front of the argument the evidence for perspective illusions, because it is largely derived from palpably schematic arrangements, and the evidence for intentional departures from exact symmetry without perspective illusions, because it is largely also derived from palpably schematic arrangements, either in corresponding parallel pairs of measurements (as at Piesole) or in a balance of measurements moving from a common centre, as found at Palaja or in S. Michele ai Scalzi.

I am therefore pointing out that Mr. Bilson's classification of the Edinburgh Exhibition is not only absurdly deficient and inaccurate as to matters of fact, but it is also unjustly deficient and inaccurate in omitting the classes of facts which are most easily demonstrated, and which are substantiated by the independent announcements of other high authorities. I am referring now not only to Mr. Ruskin, but also to another high authority, for in a very large series of observations I have taken ground which was not only anticipated by Mr. Ruskin, but which has independently been taken by M. Augusto Choisy. Moreover, in the *Edinburgh Catalogue*, I expressly quoted the stand taken by M. Choisy as corroborating my own in the given field of observations—of course without making him in the least degree responsible for my own particular illustrations.\*

I shall now quote M. Choisy still more fully on this head in view of the challenge conveyed by Mr. Bilson's quotation marks and peculiar title, and the assertion therein conveyed that I stand alone in all the positions I have taken.

Following his matter on perspective illusions M. Choisy says: "*Asymmetries*. Architects who analysed with this refinement the play of perspective must have held cheap the symmetrical combinations which are nullified by perspective, and which are complicated by the unceasing play of light and shade. The law of symmetry as we understand it now, and which consists in reproducing on the left the arrangements on the right, this rather narrow rule, plays a very secondary rôle in the Middle Ages. On this head, as in so many others, the point of view of the Gothic builders was that of the Greeks (vol. i. p. 414). Asymmetry appears acceptable as soon as an evident reason justifies it. If an edifice is placed in an enclosure the plan follows that of the enclosure. Two spires are successively erected, architecture has progressed meantime, and all the improvements are accepted in the new construction although a contrast is involved. *Generally speak-*

\* *Edinburgh Catalogue*, p. 21.

ing, the architects of the Middle Ages avoid formal regularity.\* If they admit a symmetrical result in the total effect they know how to avoid monotony by details which are infinitely diversified. Notre-Dame has on the façade three portals erected at one time; from left to right only the effects of the masses are balanced, while each one has a character of its own. These differences give to the composition a charming variety; a sympathetic feeling attaches us to these works in which the designer has disdained the expedient of a set pattern, in which each part has cost a separate study, an individual execution; instead of symmetry we have balance, and the unity of impression does not suffer.†

This philosophy of the subject of mediæval asymmetry is an extremely apt statement of the point of view that both accidental and designed irregularities represent a single virtue, and that acceptance of accidental and local variations in some cases is a phase of the artistic spirit which purposely designed such variations in other cases. This is also the ground taken by Mr. Ruskin, whereas the antagonists of the belief in purposed variations appear to consider that every case of accidental variation constitutes an argument against design in any other instance. At all events prejudice, incompetent grasp of the subject, and slovenly examination of it have drawn Mr. Bilson into a very misleading analysis of the Edinburgh Exhibition. In the preface of the Catalogue, as well as in the body and quotations of its text, I have announced the point of view which is supported by the exhibits I have now described, and by the quotations which I have now repeated and enlarged.

Since Mr. Bilson constantly refers to my "theories" throughout his article as though they were peculiarly abnormal and otherwise wholly unheard of, I have thought it worth while to show that he has had some opportunity, which he has not made use of, to ascertain that this is not entirely the case. He says that "as a result of this exhibition (at Edinburgh) there now seems to be a disposition in some quarters to hail Mr. Goodyear's supposed discoveries as having an extremely important bearing on the history of architecture." May not this disposition, as far as it exists, be due to the fact that these "supposed discoveries" are in some particulars thoroughly in line with the observations of other authorities, and that, in other particulars, although they are an advance beyond these observations, they are an advance in the same general direction? An extraordinary feature of Mr. Bilson's article is his predetermined oversight of all the publications and of all the Edinburgh exhibits in which my "supposed discoveries" have had the ratification of subsequent or previous independent announcement on the part of standard authorities.

For instance, one of the *Architectural Record* articles which was written to report on the results of the Brooklyn Museum surveys of 1895 was entitled "A Discovery of the Entasis in Mediæval Italian Architecture."

The Edinburgh "Index of Exhibits according to Subject-matter" specifies four buildings for the entasis. The *Architectural Record* quotes other examples. The matter was presented as relating directly to the origin of the vertical curves against which Mr. Bilson's satire and satirical quotation marks are specially directed. As far as I am aware no observations on the mediæval columnar and pilaster entasis had otherwise ever been published up to 1897. But in 1904 M. Camille Enlart tells us that "les fûts galbés sont restés fréquents dans les Écoles Germanique et Lombarde. On trouve des exemples de cette forme dans les régions de la France qu'elles ont influencées."†

Mr. Bilson has received such flattering treatment at M. Enlart's hands (for the Durham observations) that we are disposed to believe that he has read his book. The conundrum which we cannot answer is this. Since the mediæval entasis is directly connected with the question of the vertical curves, which Mr. Bilson has selected for his *pièce de résistance*, and since it has been treated at length by me as a step towards an explanation of the vertical curves, as being derived from an entasis in pilasters,‡ did Mr. Bilson omit the mediæval entasis from his classification and argument because M. Enlart had independently verified its existence, or did he omit it because he did not know that it is one of my "supposed discoveries"? If the latter is the case, how does it happen that he did not know it? The second conclusion would be the more flattering to Mr. Bilson as a man of honour, but it would be less flattering to him as a careful student of the subject which he has undertaken to discuss.

While I am more than prepared to meet Mr. Bilson on his self-chosen battle-ground of deflected plans and vertical curves, and while I realise deeply the importance of meeting him squarely and fairly on the questions raised for the Amiens Cathedral, I must, in the first instance, protest, by the most emphatic, explicit, and carefully detailed explanation of which I am capable, against his preposterous assertion that his argument on the Cathedral of Amiens covers all the other French churches which I have examined, and that his argument on the French exhibits covers the ground of the Edinburgh Exhibition.

Mr. Bilson's method of procedure reminds me of the emperor Caligula, who wished that all his

\* The italics are mine.—W. H. G.

† Translated from *Histoire de l'Architecture*, ii. 411-12.

\* Vol. vii. No. 1; quoted in the *Edinburgh Bibliography*, not quoted by Mr. Bilson.

† *Archéologie*, i. 326, with a list of instances; another allusion at p. 23.

‡ *Edinburgh Catalogue*, pp. 9, 10; *Architectural Record*, vol. vii. No. 1 (1897).

enemies had but one neck in order that he might behead them with a single blow. To quote the exact words of Mr. Bilson: "I now turn to the Cathedral of Amiens, which I have selected for a detailed examination of Mr. Goodyear's observations and theories."

A very considerable ignorance of these observations and theories looms from that sentence, and inevitably pervades the article, which turns on the axis of such a preamble, and this ignorance I have just instanced for three notable classes of phenomena.

I therefore propose to examine quite thoroughly Mr. Bilson's equipment for his undertaking to make a "detailed examination of Mr. Goodyear's observations and theories" by the extraordinary method of testing them in block on a cathedral in which, according to the consent of all parties, only one form of refinement, if any, appears, and I accordingly note the following Edinburgh exhibits and related publications as being wholly overlooked by Mr. Bilson, in addition to his omissions already mentioned.

In 1898 I published, as a portion of my report on the Brooklyn Museum expedition of 1895, elaborate surveys and specially made detail photographs of the asymmetries in elevation of the north and south walls of the Pisa Cathedral, including the great string-course which separates the two stories, and all the masonry courses below and above this string-course, as connected with the construction of the façade.\*

This façade, which does not project at the apex beyond the heavy pilaster bases at the angles, leans forward a foot (0.97) in the first story, steps back half a foot (0.56) at the second story, leans forward a foot (0.97) in the first gallery (second story), leans forward an inch (0.10) in the second gallery, and is exactly perpendicular in the two upper galleries. The suggestion of two successive subsidences during construction and before the subsequent erection of the two perpendicular upper galleries was negated by an elaborate series of surveys and photographs in the Edinburgh Exhibition, which were the originals of those published as described. The facts showing constructive intention, as announced by me (originally in 1874), have been carefully examined and certified by the architect in charge of the Cathedral, Signor Annibale Messerini. Baron H. von Geymüller, who, as the architectural editor of *Reichardt's Ciccone*, ranks as the foremost authority in Germany on the architectural history of Italy, wrote me as follows regarding this article:—

Baden Baden, 7th January 1904.

DEAR SIR.—It was only yesterday that I succeeded in resolving your interesting study concerning the Leaning Tower of Pisa in the *Architectural Record*, vol. vii. No. 3. Allow me to tell you that you have entirely converted me

\* The Problem of the Leaning Tower of Pisa, *Architectural Record*, vol. vii. No. 3. Not quoted by Mr. Bilson.

concerning the cathedral. I had noticed those lines of the ables outside, but never studied the reasons. I naturally considered it was the bad ground, as I had been taught to believe in the Vasari explanation of the Leaning Tower. The courage of those masons who dared to continue seemed to me quite wonderful. Your study has opened my eyes, and I am very grateful for the benefit received. As for the reasons why they did in the cathedral what we see I am less convinced than as concerning the intentional building so. But you may be right also in what you say on this point.—Believe me to be, dear Sir, yours very truly  
BARON H. VON GEYMÜLLER, Architect.

Does Mr. Bilson's silence on this topic outweigh the utterance of Baron von Geymüller?\*

In 1902 I published an article on "A Renaissance Leaning Façade at Genoa." The certificate of the architect in charge has been published and the related exhibits were shown at Edinburgh.†

M. Choisy wrote me regarding this article as follows, under date of 7th December 1904:—

"Au point de vue de l'histoire des recherches d'effet dans l'art occidental, St. Ambroise de Gènes est une trouvaille. Voilà un cas où la déformation systématique est indéniable; les bases de pilastre qui ne se retournent pas d'équerre témoignent leur intention; la façade se penche vers le spectateur comme le tableau d'une galerie."

Does Mr. Bilson's silence about St. Ambrogio at Genoa outweigh the utterance of M. Choisy?

In 1902 I also published an article: containing a series of measurements taken in the spiral stairway of the Leaning Tower of Pisa, showing that the stairway rises in height towards the leaning side, through the first story, 12 inches; that it declines in height away from the leaning side, through the second story, 8 inches; that it again rises in height towards the leaning side, through the third story, 7 inches; and that it again declines in height away from the leaning side, in the fourth

\* I have published various instances, to be subsequently mentioned, of apparent relations between some of the Pisanesque refinements and those of antiquity. Vitruvius directs that the pediment of the temple should be leaned forward, and says that it otherwise would appear to lean backward. It may be that we have at Pisa a survival or modification of such a practice or a practice based upon similar considerations. The forward projection of the upper façade, amounting to about 17 inches, when compared with the lower surface of the first story, has been carefully kept within the limit of safety, because it does not project beyond the outer line of the massive pilaster bases at the angles. Considered as a constructive unit, and with reference to these supports, the façade is constructively secure. The inclination is inconspicuous, and has been generally unknown except as announced by my publications. For instance the gentleman who was in charge of the monuments of the district in 1895, and who is an authority on Pisan art, was not aware of it in that year. It was also unknown to the architect in charge of repairs in 1900, who subsequently in that year certified to the facts as examined by him in my company.

† *Architectural Record*, vol. xii. No. 6; also published as *Museum Memoir*, No. 1 (Macmillan). Neither publication is quoted by Mr. Bilson.

‡ *Journal of the Archaeological Institute of America*, vol. vi. No. 2, new series. Not quoted by Mr. Bilson.

story, 12 inches.\* These measurements support the contention and arguments of Ranieri Grassi (1887), and of other observers, as to the intentional construction of the Leaning Tower, by the argument that a spiral stairway could not alternately and gradually rise and decrease in height without a motive, and that the only assignable motive would be to decrease the weight of masonry on the leaning side and to increase it on the side opposed to the lean, thus indicating an intentional construction. The *Building News and Engineering Journal* of 22nd September 1905 says that I have proved "that the tower was built as it now stands." Does Mr. Bilson's silence on this subject outweigh the utterance of the Editor of the *Building News*?

In 1905 I analysed the levels of the great string-course of the Pisa Cathedral † with fourteen exhibits, showing that the surface level descends from the north-west angle to the south-east angle of the cathedral 3.02 feet, showing that the string-course descends 4.56 feet between the same angles, showing that the string-courses of the north and south sides each fall 2 feet towards the transept, showing that the string-courses of the transepts adjoining these walls both rise 6 inches away from them in opposed direction, and that the string-course of the various sections of the building is from these points built to the slope of the surface as reaching its lowest point at the south-east angle of the choir. The levels of the Pisa string-course are the most important contribution ever made to the study of the Pisan Romanesque asymmetries, and they are absolutely without a parallel in any other mediæval building known to me.

Does Mr. Bilson's silence on this subject outweigh the authority of Signor Annibale Messerini, architect in charge of the Pisa Cathedral repairs, whose certificate on the obliquities of the string-course has been published?

The query thus rises: Are all these various observations to be thrown out of court by Mr. Bilson's argument about deflected plans and vertical curves? Is the standing of Mr. Bilson as an authority on the Pisan Romanesque such as to justify him in tacitly condemning wholesale, by a conspiracy of silence, careful surveys which he has never seen and a multitude of publications which he has never criticised or quoted? Is not the authority of Signor Annibale Messerini, the architect in charge of the Pisa Cathedral, to be treated with the same respect for questions relating to that cathedral as the standing of Mr. Bilson on a question relating to some mediæval church which might be under his care as repairing architect in Hull? The certificate of the architect in charge of repairs in a given building may not be an absolutely final document, but it certainly deserves mention and

respect when such remarkable observations are in question.

I now once more recur to Mr. Bilson's prefatory classification and to his assertion that "it covers the great majority of the examples" noted in my publications, and that "those which it does not include are not material to the examination which is the immediate object in view." Mr. Bilson's opinion has also been quoted to the effect that "the chief value of Mr. Goodyear's investigations will be found in the fact that they repeatedly afford in themselves evidence in disproof of the theories which he bases upon them." The object of his Paper "is to give a definite answer" to the question whether they do or do not.

As far as we have proceeded in the subject, Mr. Bilson's "definite answer" has been to say nothing at all. We congratulate Mr. Bilson on the discovery of a great "refinement," not, to be sure, in architecture, but at least in architectural criticism. Considering the number and importance of the phenomena which Mr. Bilson has ignored it can hardly be said that his performance is equal to his promise.

After our sketch, as so far given, of Mr. Bilson's shortcomings in describing the scope of the Edinburgh Exhibition we shall approach his "Class I," with some trepidation as to his mastery of the topic, which he specifies as follows:—"1. Obliquity of alignment in plan, including want of parallelism in walls and piers, deflections of axis, curves of alignment (stated as uncommon in mediæval churches) and asymmetric plans generally."

Our critic confines his discussion of "asymmetric plans generally," and of all the phenomena above mentioned, to a single class, viz. the deflections of axis. He does not admit that there are any constructive phenomena outside of the explanations which, in his view, cover these deflections. His complaint regarding my own method is that I "appear to treat each building as if it were the product of a single mind, constructed in a single building campaign." As opposed to this method he reminds us that "the great majority of the larger churches of the Middle Ages have been built on the sites of earlier structures." His next step is to take the "most common and simple case, in which reconstruction was commenced by the erection of a new choir. The old nave would remain standing, kept in use as long as possible, and temporarily closed toward the east till the new choir could be occupied. Then the reconstruction of the nave would be undertaken, frequently not as a whole, but in successive sections of a few bays at a time, each section being temporarily partitioned off until it was completed. . . . In these circumstances, and in the absence of such instruments as would now be used, it must frequently have been a matter of great difficulty to ensure accurate setting out, and a trifling initial error might easily lead to wide divergence and marked irregularity.

\* The measurements as given here vary slightly from those of the Edinburgh cartoon, which was hastily prepared without access to the original memoranda.

† *Edinburgh Catalogue*, pp. 40-45.

And this difficulty would be greatly increased by more complicated conditions than the simple ones just suggested, such, for example, as the building of aisle walls outside of and beyond an existing nave, the walls or arcades of which would not be taken down until these new aisle walls had been carried up, and perhaps only then taken down piecemeal as the new piers and arcades were built in sections. Is it any matter for surprise that under such conditions irregularities or incorrect alignment should result? . . . M. de Lasteyrie has recently stated his opinion that in the majority of cases deviations of axis are the inevitable result of the conditions under which the builders of the Middle Ages worked.\*

In considering the above quotations I am necessarily led to take notice of the few sentences with which the Comte de Lasteyrie has honoured me in the course of his recent publication, as above referred to, and as also again referred to at the close of Mr. Bilson's Paper.† M. de Lasteyrie displays the same misunderstanding of my position, and the same oversight of the arguments in support of it which afflict Mr. Bilson. His publication, as a whole, relates to the theory that the deflected cathedral choirs symbolise the bending of the head of the Saviour on the Cross; but in contending for the wholly accidental and fortuitous origin of these deflections he is led to consider briefly my own alternative suggestion, as also opposed to symbolic interpretation, viz. that they were intended to give a more picturesque vista and to complicate the perspective and optical effects. M. de Lasteyrie's arguments are those which Mr. Bilson has repeated, and the arguments of both these gentlemen may thus be disposed of at once.

As preliminary rejoinder it may be said, first, that I have never published any plans for Northern Europe, and consequently that I have never published or caused to be surveyed any plan in Northern Europe which has a deflected choir; secondly, I have never published, and have never seen, a *deflected mediæval choir* in Italy, and am not aware that there are any in that country, with the solitary exception of S. Lanfranco, near Pavia.‡ On the other hand, the numerous plans of *oblique type* which the Brooklyn Museum has surveyed in Italy belong to a class which has never previously been described, analysed, or published.§

\* La déviation de l'axe des églises est-elle symbolique? Paris, Librairie C. Klincksieck (1905).

† "It may be well to see how these theories of his have been received in France"; then quoting the scepticism of de Lasteyrie and Lefèvre-Pontalis, but omitting to mention the independent announcements of Enlart and Choisy which are identical with my own in several directions.

‡ De Darstein, *Étude sur l'Architecture Lombarde*, pl. 68. St Peter's at Rome has a deflected axis, but need hardly be quoted here.

§ The plan at Annaberg is published as having straight walls, which are oblique to the façade, by Dehio and von

These plans were first made known through the *Architectural Record*.\* All of them were shown at Edinburgh, and the circumstances and causes of the deficient illustration of the catalogue in such particulars have already been explained.

It is rather amusing to find Mr. Bilson (as just quoted) wandering off into a long account of hypothetical occurrences which have visibly no relation to these plans, when a single glance has been given to them. It is more amusing to find him quoting from p. 63 of the *Edinburgh Catalogue* and omitting the passage on the same page which states that these oblique Italian plans are unlike those with deflected choirs. The Catalogue says, as quoted by our critic: "It has been tentatively held by various high authorities that the deflected choirs of the northern cathedrals are due to building at various dates and to imperfect orientation, or joining together, of constructions of different periods." But this passage continues, as not quoted by our critic: "It will be observed that the Italian plans oblique to the façade cannot be thus explained. They are very frequently small churches of manifestly homogeneous and contemporary construction. In the second place, the plans so far illustrated have straight walls which are not deflected."

We are thus led to point out that Mr. Bilson has repeatedly spoken of "oblique" and "deflected" plans as though the terms were synonymously used in the *Edinburgh Catalogue*. In so doing he has confounded two types of plans which are quite distinct, and one of these types has been first made known through the Brooklyn Museum surveys. Hence if the terminology adopted in speaking of this type be not followed, such confusion results as we find in Mr. Bilson's argument. M. de Lasteyrie's comments on my views also fail to notice that his explanation of deflected plans, which Mr. Bilson has followed, does not apply to those which I have published as oblique. The distinction is this: in an "oblique plan" the walls are straight from start to finish, but they are not normal to the façade or, in many cases, to the terminal wall of the choir. In the Italian oblique plans the walls are oblique in one and the same direction, generally to the right, but at the same time the lines of piers or columns, also straight from start to finish, in many cases, are generally oblique in opposed directions as regards one another, diverging in alignment towards the choir, whereas the walls themselves, as far as observed, have not been found to be oblique on

Beald, pl. 453, book iii. No other oblique plan is known to me in Northern Europe. It must be remembered that the designation of "oblique" plan, as here used, excludes the plans with deflected walls and those with converging sides.

\* Mainly in vol. vi. No. 3 (1897), "Constructive Asymmetry in Mediæval Italian Churches." It has already been observed that this publication is not mentioned by Mr. Bilson.

both sides to the façade, although they frequently diverge as regards the amount of obliquity in the one given direction.\* Among such plans are the following: Ruvo, obliquity from the normal axis of 8 feet, nave widens 2 feet; Troja, obliquity of about 8 feet, nave widens 1 foot; S. Nicola at Bari, obliquity of 8.60, nave widens 1 foot; S. Chiara at Assisi, obliquity of 5.80, walls exactly parallel (builder's error of 0.00); Castel S. Elis, near Nepi, obliquity of 8.25, nave alignments parallel (builder's error of 0.15). The Cathedral of Cremona is oblique 13 feet on the median line drawn from the centre of the main doorway to the centre of the apse. This median line divides the nave into equal halves, although the nave widens  $7\frac{1}{2}$  feet in the same distance of 200 feet. The left aisle widens an additional foot, and the right aisle widens 2 feet, so that the outer walls widen about  $10\frac{1}{2}$  feet. Although there are wide transepts, the alignment of the piers is true through nave and choir, and the walls of the choir are not deflected from the alignment found in the walls of the nave.

Thus it will be observed that the debated hypothetical explanation of Bilson and de Lasteyrie for deflected plans, that they are due to screening off portions of a church during construction and to the resulting difficulty of continuing a true alignment, does not in the slightest particular cover these plans, which are oblique as regards the façade and terminal wall of the choir (one or both), but which are straight in the alignment of walls and of oblique interior arcades. On the other hand, if any asymmetric plans appear to be intentional—viz. those which have been described, and which these gentlemen have not considered and apparently have not examined—it is quite evident that the suggestion of design for a certain number, at least, of deflected choirs could not very well be rejected.

My own suggestion in explanation of the deflected northern choirs was originally reached in the following way. Among the Italian basilica plans without transepts or exterior indication of the choir, there are some small churches having exterior straight walls with diverging but straight alignment of columns in the nave, and having deflected straight alignment of the corresponding arcades of the choir. In these small churches the

theory of incorrect alignment, as due to a screen, shipwrecks not only on their size, but also on the true alignment of the walls. Thus S. Pietro at Toscanella (Byzantine-Romanesque) is less than 125 feet long. The arcades of the choir are both deflected to the right in parallel directions, as compared with the arcades of the nave, and to the extent of 18 inches as compared with the left arcade. The arcades of the nave widen 5.50 toward the choir in straight alignment from start to finish. Both side walls have true alignment. The left wall is normal to the façade, and the right wall is oblique to the right, only 1.90 for the length of the nave, which widens 5.50. S. Maria at Toscanella (Byzantine-Romanesque), less than 100 feet long, and S. Pietro at Assisi (Gothic), less than 90 feet long, are similar instances as regards an interior deflection in the arcades of the choir which has no relation to the plan of the exterior walls.\* These were the churches which originally suggested an analogy with the deflected choirs of Northern Europe, as representing interior deflections of the choir which appeared to be the Darwinian predecessors of the evolution of the exterior bents. They are also closely related to the oblique plans which are straight throughout in their interior and exterior alignment, and thus appear to form a connecting link between two other types of plans which are in themselves distinct, but which produce analogous optical effects.

It is undoubtedly true that the existence of a predetermined asymmetric plan postulates for some medieval builders the habitual consideration of optical effects. The proof that such effects were considered is offered by the existence of medieval perspective illusions of varied, and frequently of very subtle, character.

It is also true that the existence of a predetermined asymmetric plan presupposes an artistic pleasure in its effects, and this again postulates the absence of an abnormal or over-conspicuous irregularity. The question thus arises, What amount of variation from symmetry is consistent with the optical oversight which produces, even if it did not intend, an optical illusion, or which produces such a complication of optical effects as to mystify, and consequently interest, the eye? On this head it may be said that the plan of Cremona Cathedral is published by Dehio and von Bezold as absolutely normal and absolutely rectangular and parallel in alignment. The actual plan of the Cathedral of Cremona has just been described. It thus appears that an obliquity of 13 feet and a widening in the walls of  $10\frac{1}{2}$  feet have been disregarded or overlooked at Cremona by Dehio and von Bezold, or by some other authority from whom they have borrowed this plan. Such oversights are an almost universal rule in the publication of modern surveys,

\* It is frequently supposed that arcades which widen in alignment toward the choir tend to diminish perspective. This overlooks the point that the attendant foreshortening of the arcades increases perspective effect of distance, and is thus contradictory to the effects of line in plan. Conversely, when arcades narrow in plan toward the choir, perspective effect in plan is contradicted by an effect of increase in the height of the farther arcades, as compared with the effect which would result if the arcades were parallel. Generally speaking, asymmetry of plan, if intended at all, must have been intended to complicate the optical effects, rather than to produce an effect in one direction only, which was reversed in the opposite direction.

\* Measurements and plans of all these churches in the quoted article.

which are generally carried out on the theory that one measurement represents a given dimension for the entire church. Thus Roynaud's *Traité d'Architecture* publishes S. Maria Novella at Florence as having equal bays, when they actually diminish toward the choir to a total amount of 13 feet. In both instances my own observation shows that variations up to the mentioned amount are not noticed by the eye. In all cases of oblique plans it must be remembered that the optical effect is invariably translated by the eye into an obliquity in elevation. This obliquity already exists optically in all horizontal lines which are not seen in parallel perspective. Hence the effect of an oblique plan is simply to optically decentre the church, to shift in some particulars, but not in others, the assumed position of the spectator, and to confuse and complicate the optical effects from any given point of view.

It is certainly not to be expected that critics, such as Mr. Bilson, who have ignored the proven existence of mediæval optical effects in the way of perspective illusions, will be prepared to admit a mediæval practice which presupposes the consideration of other optical effects. None the less, the existence of perspective illusions in some of the same churches which exhibit oblique plans or interior deflection of the choir arcades is not to be forgotten by the unprejudiced critic. Thus S. Pietro at Assisi, which is planned as a perfectly true rectangular parallelogram, and which has an interior choir deflection of 1.80, has arches which descend toward the choir 2.60 and a pavement which rises toward the choir 1.70. The margin of builder's error, as obtained by comparing pairs of measurements in the nave, is 0.20. S. Nicola at Bari, which is oblique 8.60 on the median line, has also perspective schemes in elevation in the direction of the choir of a very pronounced character.\*

From another point of view the oblique plans suggest analogies with another class of asymmetries which Mr. Bilson has also ignored, and which Ruskin and Choisy have considered interesting and pre-determined. They display the "fixed scorn, if not dislike, of accuracy in measurements," which Ruskin pointed out, and they remind us of Choisy's view that, "generally speaking, the architects of the Middle Ages avoid formal regularity." It is not a long step from my observations of asymmetric arcades and of the obliquities in elevation at Pisa to these obliquities in plan, and they invariably have similar effects. All of these phenomena were, in fact, originally described in the same publication. Once more we recur to the point of view, so well explained by Ruskin and by Choisy, that both accepted and designed irregularities represent a single mediæval virtue, and that the acceptance of local and accidental variations is a phase of the same artistic spirit which also purposely designed them.

It is not, however, my mission to argue with Mr. Bilson on any points which do not meet his own contention. My aim is simply to point out that my suggestion regarding deflected choirs was based upon some oblique plans which are not deflected, and upon others which are only deflected in the interior alignment and not in the exterior walls. These plans are palpably not explained by Mr. Bilson's theory.

Thus by the study of Italian basilica types with perfectly straight exterior walls, without transepts, and without any choir whatever, as regards exterior form, the conclusion has been reached that asymmetries of plan were deliberately designed in Italy. This conclusion has been extended to externally deflected choirs in Northern Europe and has been offered as one possible or probable explanation of them, without asserting that it includes them all. There is not the slightest doubt that local irregularities of building plots were occasionally accepted as determining an asymmetric plan. The bend in plan of the Cathedral of Saint Lô is clearly determined by the bend in the street. Saint Jean-aux-Marchés at Troyes is another example of a church which is certainly built to the bend in the street on the south side. It appears, however, doubtful that purely local irregularities could explain such a vast number of deflected choirs as are known to exist in Northern Europe; for the question then rises: Why is the bend so frequently found exactly at the choir? On the other hand, the hypothetical explanation which is offered by Mr. Bilson may possibly apply to other individual instances; but since it cannot be invoked to explain the Italian plans, there is no reason for straining it to apply to all the northern ones. In the case of a screened choir or of a screened nave there is no reason why external sighting and justification of alignment could not be carried out, and this appears to be a fatal objection to any very wide occurrence of the reasons invoked for a deflected alignment of external walls. When a nave was built on to a screened-off choir, why could not the masons lay out a true right angle from the outside walls of the transepts? When a nave was to be prolonged, why could they not pass outside the screen and continue the line of the exterior walls?

In view of the wonderful engineering accomplishments of the Middle Ages and of the existence of so many instances of severely accurate mediæval planning, it would appear that Mr. Bilson's theory lays too much stress on the "imperfect instruments at their command." M. de Lasteyrie also insists on the mediæval ignorance of modern instruments as an all-sufficient explanation of the deflections which resulted from screening off an unfinished church, but he does not explain how the master-masons frequently contrived, in spite of this ignorance, to lay out plans with perfect precision under other circumstances. Viollet-le-Duc, however, assures us that the mediæval masons were consumm-

\* Section in *Architectural Record*, vol. vi. No. 2.

mate masters of geometric science, and he attributes such knowledge not only to the master-masons, but also to the ordinary workmen who were employed on the Gothic cathedrals.\*

The most "complicated" plan can be surveyed with accuracy by the use of a peg, a cord, and a measuring tape. It follows that such a plan can be laid out accurately with the same "imperfect instruments." Having assisted an accomplished surveyor who was employed for several months in Italy by the Brooklyn Museum under my direction I can speak with authority on this subject. This gentleman, Mr. John W. McKeeknie, who also plotted all the Italian surveys, had a complete surveyor's outfit of modern instruments, but frequently found it convenient to forgo their use. To establish a true rectangle it is sufficient to inscribe two intersecting segments of circles which are drawn with a piece of string and a pencil peg, from two opposite extremities of the same radius, which is the base of the procedure, and this radius is generally laid down through the centre of the main entrance and in true alignment with the façade. From the centre of this radius a cord is stretched which passes through the point of the intersecting segments of circles. This establishes a true rectangle and a true normal line. The cord is then stretched through the given points to any desired length, to establish a longer normal line. All lateral measurements are then taken to this line, or to points established from it. The subsequent procedures are matters of simple detail. Having personal experience as an interested assistant in this surveyor's work, it is within my personal knowledge that a true rectangle and a true plan can be laid out without any instruments whatever. In the case of a walled-off choir all that would be needed in planning a correctly aligned nave would be to carry out a true normal line through a door in the wall, and this normal line could be established by the simple procedure which has just been described.

My own studies of oblique plans have abundantly convinced me that no theory excepting that of premeditation will explain a number of them, knowing how simple a matter it is to layout a true rectangle, and how constantly this was done not only in neighbouring and contemporaneous mediæval buildings, but even in the very building which may be oblique in other particulars. Thus S. Nicola at Bari has sixteen true rectangles in deeply recessed doorways in a plan which is 8'60 feet oblique on the median line. The church stands on open ground without contiguous buildings and with wide piazzas on three sides, and there is a street on the fourth side from which the plan might have been removed to any desired distance.

\* *Dictionnaire*, ix. p. 204. "Une méthode pareille existait, il est vrai, une pratique très complète de la géométrie, non seulement de la part du maître, mais aussi chez les metteurs en œuvre."

Therefore in considering the topic of asymmetric plans, the first question to be determined, before considering the deflected choirs, is whether any of those appear to be intended which are not externally deflected, and the oblique plans which are straight as regards the exterior walls and interior arcades offer a problem which appears not to have dawned on Mr. Bilson as even existing. If he should fall back on the suggestion of an obliquity of site, after this problem does dawn on him, the adverse local arguments and facts in the individual cases which have been surveyed are too numerous to mention. It may simply be said that all the churches quoted in this Paper, and many others, stand absolutely free and isolated as regards surrounding buildings, and that their oblique alignment of plan has certainly never been caused by local asymmetries of the building plots. If scepticism still insists on this point we have simply to appeal to the interior obliquities of straight alignment, in arcades, which differ entirely in direction from the exterior obliquities. Finally we are able to quote normal plans with walls forming true rectangles, which are oblique in straight lines as regards the interior arcades, and in such cases these also generally widen in alignment toward the choir. S. Pietro at Assisi thus widens 1'60 feet with a wholly normal and rectangular exterior, and also has a carefully constructed oblique apse which is set in a normal terminal wall. Orvieto Cathedral widens 0'90 (foot decimal) in the piers of the nave, with straight alignment, and is normal and rectangular as regards the side walls and façade.

A decisive case of an intentionally devised asymmetric plan is found in the transepts of the Pisa Cathedral. This instance is not mentioned with a view to the conversion of Mr. Bilson, for he is presumed to be already acquainted with it, as described in the *Edinburgh Catalogue* at p. 31. It is mentioned for the benefit of others as an instance of the kind of evidence that is insufficient to convert Mr. Bilson. These transepts are delicately fan-shaped, with sides converging toward the nave, as shown by the following measurements:—

South Transept.	North Transept.
South wall . . 57'43	North wall . . 57'88
North opening . 56'60	South opening . 56'79
Convergence toward the nave 1'03	Convergence toward the nave 1'10

Thus the corresponding measures tally on the outer walls of the transepts within 0'25; they tally at the openings into the nave within 0'18. The measures for convergence tally within 0'07. This is the kind of evidence which leads me, in spite of Mr. Bilson's protest, to treat certain buildings as though they were and are "the product of a single mind, constructed in a single building campaign." There is also a simple

explanation for this construction as being intended for exterior effect, and to exaggerate the optical effect of the exterior obliquities in elevation of the transept string-courses. These are described in the *Edinburgh Catalogue* in connection with the corresponding obliquities in elevation of the great string-courses on the side walls.

A very curious question is finally raised by the theories of Bilson and de Lasteyrie as to screens and temporary partition walls. If the externally deflected choirs of Northern Europe are really explained by these theories, how does it happen that there are practically none in Italy? Surely the conditions described as explaining these choirs cannot have been confined to the northern territories; and if they existed in Italy, why did they not produce there many similar exterior deflections? It is expressly declared, by Bilson and de Lasteyrie, that their theory does not presuppose gaps of time or delays of construction, but that the screening in successive sections of partially finished cathedrals which were erected with rapidity and within an unbroken short period is what caused their deflections of exterior plan, as due to the assumed deficiency of proper instruments. The law of chances would not allow us to presume that none of these very frequent "accidents" happened in Italy, and yet when the observations which Mr. Bilson has attacked are examined it turns out that the Brooklyn Museum surveys have not included any externally deflected choirs in their very thorough examination of Italian churches.\* It is certainly not my intention to assert that the modest church of S. Lanfranco, near Pavia, is the solitary instance of an externally deflected Italian choir, although it is the only one known to me by publication or by observation. What can be safely said is this, that none of the widely known Italian cathedrals have externally deflected choirs, and that many of the widely known northern cathedrals notoriously do have them. According to the law of chances and the universal practice in cathedral building which Mr. Bilson has invoked, this is a most curious state of affairs. If it were assumed that the Italian interior deflections of choir arcades, as in S. Maria and S. Pietro at Toscanella, represent a type of earlier date and of more refined design, and that the external choir deflections represent a later northern exaggeration, derived from the more subtle Italian system, then the deficiency of deflected choirs in Italy would be explained. On the other hand, if the oblique Italian plans are accidental, it would again be difficult to explain why a considerable number of them are not known in Northern Europe, and also why they are not more common in Italy.

\* The right wall of S. Maria at Toscanella bends slightly at the choir to exaggerate the original obliquity beginning at the facade. The church stands in the open country at some distance from the walls of the town, and there are no contiguous buildings. The other features of the plan have no relation to the theory of "crooked sites."

About thirty-five examples only are known at present. An examination of French Romanesque plans to ascertain if they also present instances of choirs which are deflected in interior planning, without exterior bends, might throw additional light on this subject. At present the known deflected choirs of the north appear to be almost wholly Gothic, and the oblique plans of Italy are mainly Romanesque.

Mr. Bilson has quoted at fourth hand (on two occasions), and M. de Lasteyrie has quoted at third hand, the story of the architect of Metz who "died of grief and distress" because he was "ashamed of having made his work so crooked." M. Anthyme Saint-Paul has very justly remarked of this story that its value would be much greater if the date of the chronicle mentioned by Kraus were known to be contemporaneous with the event.\* In default of assurances on this head we find Mr. Bilson's sarcasm *à propos* of this tradition rather tedious. This sarcasm might have point if I had ever published the plan in Metz, or if I had said or knew anything about it. That there were blockheads among the mediæval builders is possible; that many mediæval builders did not practise refinements is certain; and that some of the blockheads may have belonged to their class is probable.

The contention that deflections of alignment in church construction are due to the successive screening off of successively constructed portions of the church is also curiously oblivious of the existence of curves and bends in plan which are developed above the ground plan, and without occurring there. For optical effects these would be equally effective as found above the level of the eye. For instance, there are parallel curves in plan in the gallery parapets of the Pisa Cathedral which are not found in the alignment of the nave columns. The curves are convex to the nave on the north and concave to the nave on the south. Hence these curves, being parallel, are counter to thrust from the south aisle vaulting, and thrust from the aisle vaulting cannot consequently be invoked to explain either of them. The Cathedral of Rheims has curves in plan on both sides, convex to exterior, which measure 10 inches deflection to a side at the clerestory parapet, whereas the alignment of the piers of the nave and of the exterior walls of the aisles is perfectly rectilinear. Manifestly the theory of a screened-off church as explaining incorrect alignment cannot be invoked for a gallery or a clerestory when it does not apply to the ground plan, while the very proposal of such a theory concedes to the mediæval mason the ability

\* *Bulletin Monumental*, 1906; M. Anthyme Saint-Paul, *Les Irregularités de Plan dans les Églises*, p. 115. "Sur ce texte, néanmoins, j'aurais souhaité un supplément d'information, car il perdrait singulièrement de valeur s'il n'était pas contemporain ou très voisin de la période 1371-1409, qui est celle de la construction de l'édifice, si ce n'était qu'un *ferret*, un écho d'une tradition populaire."

to build in true alignment when there was no definite cause to the contrary.

On the whole topic of horizontal curves which we are thus led to take up Mr. Bilson is silent as the grave. He disposes of the subject in six words by the parenthesis which has been quoted, referring to the *Edinburgh Catalogue* for the fact that curves of alignment "are uncommon in mediæval churches." Here is one more occasion for taking exception to the character of this "definite answer" to the teaching of the Edinburgh Exhibition. That a critic has a right to choose his own ground, that he has a right to bear hard on one point and neglect another, all this is true; but he has no right in so doing to make a pretence of disposing thoroughly of questions which he entirely ignores. If it has been said in the *Edinburgh Catalogue* that horizontal curves are "uncommon in mediæval churches," it has also been said that they are most numerous in the buildings which are otherwise the most remarkable for their refinements, and that their rarity, apart from such buildings, is an indication that they are not accidental in these. It has also been pointed out that these curves indicate an historical connection, in actual builder's practice, as between some of the refinements of antiquity and some refinements of the Middle Ages.

The evidence for this connection was the introductory subject of the Edinburgh Exhibition. The *Building News* of 22nd September 1905 says that: "in spite of considerable lapses of time between the examples the series is tolerably convincing." How can the teaching of the exhibition be refuted by an answer which not only slights this evidence, but which even ignores its existence? The *Building News* says: "Of the existence of the curves and of their being in a great many instances due to some preconceived plan, and not to mere accident, the present exhibition is evidence enough." Mr. Bilson certainly is privileged to doubt this statement, even although he has not examined the exhibits, but he is not privileged to misrepresent the *Catalogue* by a misleading quotation. Under the argument from which that quotation is taken the curves in plan of the cloisters of Verona and Bologna are catalogued as repeating the curves in plan of the second temple court at Medinet Habon. Under that argument the curves in plan of the Maison Carrée at Nîmes and of Paestum are catalogued as preceding and explaining those of S. Sophia at Constantinople. The quotation is connected with an argument describing the curves of S. Apollinare Nuovo at Ravenna, of S. Donato at Genoa, of the Fiesole Cathedral, of the Pisa Cathedral, and of St. Mark's at Venice, as related historically to the curves of antiquity through Byzantine Greek transmission.

The first fourteen exhibits of the Edinburgh Exhibition were wholly devoted to this subject, and the entire number of exhibits for horizontal curves was thirty-eight. The "Index of Exhibits accord-

ing to Subject-matter" specifies nineteen buildings for curves and bends in plan and for curves and bends in elevation. Of these buildings sixteen represented true curves in plan as distinct from bends. Thus more than one-third of all the Italian buildings and more than one-fourth of the entire total of buildings in the exhibition were represented by exhibits for curves in plan. Mr. Bilson's parenthetic and solitary allusion to curves as stated to be "uncommon in mediæval churches" thus ignores a refinement which was represented in the exhibition by as large a number of buildings as the average allotted to any other single class of phenomena, and only slightly exceeded by the number allotted to perspective illusions.

Curves in plan which are parallel, including parallel curves which begin at the foundations, were repeatedly instanced in the exhibition. Such parallel curves can never be due to thrust, for in these cases the causes of thrust are always eliminated on one side of the given church. It is for Mr. Bilson to explain how a series of mistakes in alignment due to screening off successive portions of a church during construction can be invoked to explain the parallel curves of S. Apollinare Nuovo at Ravenna. As to the cloister curves of Bologna and Verona, which are convex to the centre of the court, and which begin at the foundations of the walls and parapets, the "definite answer" is once more, total silence.\*

Let us now examine more carefully and requote, for that purpose, our critic's opinion, that "the chief value of Mr. Goodyear's investigations will be found in the fact that they repeatedly afford in themselves evidence in disproof of the theories which he bases upon them." For we are now able to estimate the slender knowledge of the Edinburgh Exhibition upon which Mr. Bilson has based his "criticism" of its "teaching." Upon this same slender knowledge must consequently rest his complaint regarding my "neglect of historical material," which is very formally made as follows:—

"It is curious to observe how little considerations of this kind (viz. regarding documentary history, regarding repairs and renewals, and regarding existing condition of the building) seem to have influenced Mr. Goodyear in his investigations."

This sweeping general assertion loses a considerable amount of its importance when we have ascertained exactly what Mr. Bilson is talking about, and, above all, when we are able to show what Mr. Bilson has not been talking about. So far as the

\* None of my publications on horizontal curves are mentioned by Mr. Bilson's bibliography. They are as follows:—"A Discovery of Horizontal Curves in the Maison Carrée at Nîmes," including observations in Egypt (*Architectural Record*, vol. iv. No. 4 [1895]); "A Discovery of Horizontal Curves in Mediæval Italian Architecture" (*Architectural Record*, vol. vi. No. 2 [1897]); "Architectural Refinements in Italian Churches" (*Journal of the Archaeological Institute of America*, vol. vi. No. 2, New Series [1902]).

Edinburgh exhibits have been considered in connection with his review of them, it is clear that this imputation must fall to the ground; for the double reason that it is evidently misplaced when the character of the evidence is considered, and that Mr. Bilson does not himself control the subject-matter in such a way as to justify him in having anything to say about it.

The index of the *Edinburgh Catalogue* specifies sixty-one buildings as represented in the exhibition, and if the "index according to subject-matter" be examined, it will appear that forty-six of these buildings have been so far covered by the various subdivisions of this rejoinder. Three of these forty-six buildings, the Pisa Cathedral, S. Maria della Pieve at Arezzo, and the Cathedral of Trani, also figure, however, in the list for vertical curves, or for the delicate horse-shoe form in construction of the nave, making a total of eighteen buildings in this latter class.

We may thus estimate the weakness of the pedestal upon which Mr. Bilson has reared the fabric of his "criticism"; for whatever significance this criticism may have can only relate to a single class of phenomena out of the many which have been described. If there be any substance whatever in his Paper it must be sought among these remaining eighteen buildings, and we will now proceed to search for that substance in this quarter.

At the opening of our rejoinder it appeared that Mr. Bilson had rather hastily classified the "great majority" of the Edinburgh exhibits in two divisions, viz. asymmetric plans, as just disposed of, and a second class, which he thus describes:—

"Walls, piers, and columns out of plumb, sometimes straight, but more generally described as 'vertical curves.'" Under this vaguely alarming but not very explicit caption, our critic's general introductory remarks are as follows (after closing his argument on asymmetric plans with the story of the architect of Metz): "It is equally impossible, however, to arrive at any satisfactory conclusion with regard to the irregularities included in Class II. (which Mr. Goodyear describes as 'vertical curves,' 'widening refinements,' 'parallel lens,' &c.) if they are to be regarded simply as isolated facts. They, too, must be considered in their relation to many other facts which go to make up the story of the structure. We must not only know the architectural history of the building in question, and the precise order in which the various parts were erected, but we must study its structure, in order to judge how far the problems of unequal loading, abutment of vaults and arches, &c., have been successfully solved, and what weaknesses would be liable to develop from any defects of design and construction; we must exhaust the documentary history of the structure, from its erection up to the present day, in order to ascertain what repairs, renewals, or alterations have been carried out, and

the reasons for their execution; and, finally, we must carefully examine the building in its existing condition in order to detect any indication of movement in the fabric. Then, and then only, shall we be in a position to understand the real cause and meaning of these 'refinements.'"

This rather pompous programme may be condensed to the self-evident statement that we ought to be sure that there has been no thrust and no other accidental movement before the vertical curves or the horse-shoe form of nave construction can be announced as refinements.

Mr. Bilson's method of attack on the observations for vertical curves, and for the horse-shoe form in nave construction, appears to be not wholly justifiable. This method consists in wholly ignoring sixteen out of eighteen churches which were illustrated by large photographs at Edinburgh for these refinements;\* in suppressing all of the various forms of evidence which were represented by these sixteen churches, and in omitting from his alleged bibliography all my publications for the numerous Italian churches in which these phenomena were first observed and originally described (including two of the most famous cathedrals in Italy, which have been formally and officially verified as constructive instances of my "theories" by the architects in charge of repairs in the given churches).

The philosophy underlying this procedure appears to be the assumption that no chain is stronger than its weakest link, or the link which appears to be weakest to our critic. It must be remembered, however, that Mr. Bilson's argument rests entirely on the suppressed premise of the inherent improbability of the asserted facts. If a single case of mediæval vertical curves or of mediæval horse-shoe construction of the nave be demonstrated to exist, this inherent improbability disappears, and it immediately becomes not only probable, but absolutely certain that other cases will be found. In the search for these other cases it might occur that an over-enthusiastic investigator had included unsatisfactory evidence, or mistakes of observation, or cases of accidental movement; but if right in any case the general contention for the existence of such a mediæval refinement would still be established, and this is, of course, the only matter really in debate.

Mr. Bilson, however, insists that all my eggs are in the one basket at Amiens, and that he has broken them all there; but in the same breath, and with enviable self-assurance, he explains that his reason for confining his attack in detail to a single cathedral is the fact that the large number of "churches covered by his (my) investigations renders it difficult to test his theories in each particular building."

\* Beauvais, Noyon, and Saint-Remy at Rheims were not included in the Edinburgh exhibits. The Cathedrals of Paris and Amiens are the only other buildings which are mentioned by Mr. Bilson.

Therefore, the argument continues, in effect, I shall test his theories on a single church and you may take my personal word for it that "equally conclusive proof" could be found in all other cases "that their refinements exist only in Mr. Good-year's imagination" if M. Durand would only write the necessary monographs.

The upshot of the matter is this, if Mr. Bilson's standpoint be accepted, that none of the evidence is worth consideration because one kind of evidence is mistaken or insufficient. But from my point of view there was no instance represented by photographs at Edinburgh for the given phenomena in which the individual building did not offer some new and distinct constructive feature in favour of the general thesis.

From my point of view there was not a single building illustrated in which the existence of repair or reconstruction of the vaulting, if demonstrated by documentary history, would throw this submitted constructive evidence out of court.

It has never been claimed that the horse-shoe widening and the vertical curves were a talisman or magic formula, involving the necessary preservation of a vaulting or ensuring it against the need of repair. On the contrary, it is morally certain that since the tradition of such construction was lost sight of, many repairs have been carried out simply because the widening horse-shoe form has been ignorantly described to thrust. It is self-evident, assuming vertical curves or horse-shoe widening to have been constructed, that the buildings which exhibit them were not less subject to decay or downfall than their fellows. It is self-evident that, when the tradition of such a system of construction had been lost, these particular buildings would be more exposed than any others to wholesale and brutal repairs, or to unnecessary rebuilding. Hence it is begging the argument to assume that every documentary account of a repair in piers or vaultings applies purely to a weakness in the building, which weakness such a curve or widening is assumed to represent.

This is the suppressed premise in Mr. Bilson's citation of repairs and rebuilding at Beauvais, Noyon, and Saint-Remi at Rheims. It did not, however, occur to him to mention that these buildings were not included in the exhibits at Edinburgh, or to inquire what the reason for this omission may have been. This reason was that there were at least eighteen better cases,\* as regards visibly constructive evidence for this particular class of phenomena, and that the limitations of space involved the omission of much evidence in more than one direction.†

It would be unreasonable to suppose that impregnable constructive evidence could be furnished

for all the cited instances of these particular phenomena. Some of these instances must take their chances as debatable cases long after the general facts are accepted. As the number of definitely proven instances increases, so will the tendency of scepticism decrease to contest every individual instance which is not definitely proven. As to the mentioned churches, which were excluded (with many others) from the Edinburgh Exhibition, the citations which I have made in publication of Beauvais have been extremely guarded.\* My defence of all these churches will be involved in my account of some general facts which are also vital to the argument regarding the Cathedrals of Amiens and Paris, and these last are the only churches of the entire Edinburgh series of eighteen which Mr. Bilson has mentioned in any portion of his "criticism," incredible as this may appear to those who have not carefully studied his review. A brief account of the special publications in this particular field of the investigation, which have been overlooked by Mr. Bilson, is consequently in order here.

Among the seven *Architectural Record* articles which formed the original report on the Brooklyn Museum surveys of 1895, was the one on the mediæval Italian columnar and pilaster entasis, already mentioned as having been ignored by Mr. Bilson. In this Paper an entasis (vertical curve) in mediæval engaged columnar forms and pilasters was shown to be related to a mediæval columnar entasis, which was then also for the first time (as far as my knowledge goes) announced in publication.† These facts were found to have analogies and counterparts in the Italian Renaissance in monuments for which the similar facts never have been, and never will be, disputed.‡

The report was then continued by an article entitled "An Echo from Evelyn's Diary." This article was devoted to the attenuated horse-shoe form in nave construction (otherwise the so-called "widening refinement") as found both with and without the vertical curves or entasis. This was the first detailed account of the class of observations in which the Cathedral of Amiens has been subsequently included (the quoted title drew attention to Evelyn's mention that two English architects of the seventeenth century, Chicheley and Pratt, had considered an outward widening of the "main walls" § of the Old S. Paul's as intended for optical effect).

I was by no means unexpectant of the general scepticism which might await these announce-

\* "The accident at Beauvais is not to be overlooked" (p. 125, *Edinburgh Catalogue*).

† The existence of the columnar entasis was independently announced by M. Enlart at a later date.

‡ Notably the Teatro Olimpico at Vicenza, the Church of S. Stefano at Vicenza, and still more notably the Church of S. Giorgio Maggiore at Venice. Two of these buildings are by Palladio, and S. Stefano belongs to his school.

§ Supposedly referring to the clerestory.

\* This was written before the recent photographic surveys at Noyon and in Saint-Remi at Rheims.

† The arrangement with the Edinburgh Architectural Association was for 450 feet of linear hanging. The exhibits actually covered 350 linear feet.

ments, and special stress was therefore laid upon the fact that they were corroborated by Mr. John W. McKecknie, the expert in architectural engineering construction who had been employed by the Brooklyn Museum to act as my assistant in 1895. His certificate as engineering expert was included in this article. This publication is also excluded from the Bilson bibliography.\*

It was not until 1901 that an opportunity was offered to continue the investigation; but when this opportunity was offered I made a trip to Italy, mainly to establish relations with the architects in charge of repairs of the Pisa Cathedral and of St. Mark's, and to make additional photographs and measurements of the Italian churches described in the "Echo from Evelyn's Diary." Another year elapsed before my museum routine work allowed me to publish the results of this expedition, including the certificates of Signor Annibale Messerini for the constructive vertical curves and other refinements at Pisa and of Commendatore Pietro Saccardo for the constructive horse-shoe form in the nave and transepts of St. Mark's. These certificates were published in the *Brooklyn Museum Memoir*, No. 2, a monograph of 111 pages, with 44 illustrations and 14 plans. This publication is also not mentioned by Mr. Bilson.†

In 1903 an opportunity was offered to resume the investigation, and this was the first occasion when it was possible to examine the Byzantine churches at Constantinople and the Gothic cathedrals of Northern France. Mr. Bilson's bibliography is wholly confined to the publications concerning this latter expedition. How far his success in dealing with the research at Amiens justifies such a procedure has now to be determined.

The suppressed premise in Mr. Bilson's argument on the Cathedral at Amiens, as implied in his wholesale exclusion of other evidence, and in suppressing mention of the existence of the various publications which have been cited, is this: "If the vaulting thrust at Amiens accounts for the phenomena there, it will account for all the phenomena elsewhere." I propose to meet his argument in both particulars; by showing that the vaulting thrust at Amiens does not account for the phenomena there, and by showing that the phenomena occur elsewhere where there is no vaulting thrust, and that they occur again in other cases where the thrust is opposed to the receding surface. Once more, therefore, will appear that same indifference or ignorance as to the existence of crucial cases, not covered by his own

argument, which has been demonstrated to be Mr. Bilson's constitutional delirium as a critic throughout this controversy.

At Amiens Mr. Bilson is at fault in his facts, and therefore in his conclusions. But wholly aside from Amiens, where the enormous altitude and large dimensions of the cathedral surround the obtaining of accurate measurements for the verticals with undeniable and tremendous difficulties, Mr. Bilson's neglect of proven constructive facts must now be illustrated by tangible examples.

The Cathedral of Trani is an unvaulted basilica with timber ceiling. It has a light "triumphal arch" at the opening of the nave into the transept, which also forms the choir. The wholly inconsiderable thrust of this arch is buttressed by the transept walls on either side. The shafts which support this arch are attached to these walls and widen delicately and continuously from the pavement up, in straight lines, which diverge at the capitals only 10 to 12 inches, as compared with the width at the bases, in a height of 48 feet, and the width between piers is only 25 feet at the bases. The facts are corroborated by Mr. McKecknie, who photographed them in 1895, and have been mentioned and illustrated in each of the publications which have just been quoted. They were also illustrated at Edinburgh.\* Is it Mr. Bilson, or is it I, who is indifferent to the problems of "loading and abutment of arches" in this instance? That these two shafts can slope outward in an even and regular manner to the amount of only 5 to 6 inches on each side, in slopes beginning at the bases and rising throughout the entire vertical height of 48 feet, from any accidental cause, is impossible. It is insulting to the intelligence of any expert even to suggest the hypothesis of accident.

This delicate widening in attenuated horse-shoe form, and under equally convincing conditions as regards thrust or subsidence, is a widespread appearance in medieval churches. Many examples have been published, but Mr. Bilson's only reply is that the large number of churches covered by my investigations renders it difficult to test my theories in each particular building. In other words he refuses to consider the case at Trani because there are others like it.

Trani is thus an example of a perfectly simple proposition in physics and in engineering construction. It is not contended that the arch at Trani has never been repaired. I know nothing about it, and the consultation of documentary history or the publication of a monograph in two heavy volumes about this church could not pos-

\* *Architectural Record*, vol. vii. No. 2 (1897), "An Echo from Evelyn's Diary."

† *The Architectural Refinements of St. Mark's, Venice; with Remarks on other Churches showing a Similar System of Leaning Verticals, especially those in Orvieto, Vicenza, Milan, Pavia, Bologna, and Arezzo, and including the Renaissance Church of S. Giorgio Maggiore at Venice.* (New York: Macmillan.) As the title indicates, this Memoir was an effort to summarise the evidence for all parts of Italy for this particular system of construction.

\* Exhibit 223. "When the absence of vaulting, the inconsiderable thrust of the arch, and the resistance of the deep transept walls are considered with reference to the diverging verticals, which rise in straight lines from the pavement up, it is evident that we have here a constructive refinement, and that an accidental movement cannot be invoked to explain the divergence."

sibly affect this problem. The proposition is simply this, that under the given conditions thrust could not operate to produce a slope of such delicacy and such uniform character at a distance of 48 feet below the springing of the arch. In fact thrust could not produce any kind of a regular slope in such a transverse wall.

Thus the existence of delicate slopes beginning at the pavement, and rising in straight lines to the springing of an arch or vaulting, is *prima facie* good evidence for the existence of the given refinement, wherever the abutment is furnished by transverse walls of considerable depth. Thus the apses of the Balaban Aga Mesjid at Constantinople,\* of the Capella Palatina at Palermo, of Saint-Radegonde at Poitiers, and of the Schottenkirche (Renaissance) at Vienna† are examples of this class.

Where the abutment consists of the transverse terminal walls of the church aisles, and the outward slope begins at the pavement and continues in straight lines, the same positive evidence is found and is again independent of any question of repairs. This is the case in Saint-Loup at Châlons. The diverging piers at the apse are united with the terminal transverse walls of the aisles. This widening at the choir is 8 inches in a height of 27 feet (exhibit‡). A widening is found in all the piers of the nave, which also diverge in straight lines from the pavement up. This church has been published with illustrations in all of the publications which are quoted by Mr. Bilson, but he chooses to ignore it.§

Where there is an abutment consisting of the transverse walls of the transept and the outward slope begins at the pavement and continues upward in straight lines, the same kind of evidence is found. These are the facts in St. Mary Diaconissa at Constantinople (sixth century), in the Church of the Monastery of the Choral at Constantinople (eleventh century), in St. Mark's at Venice, where the transept walls abut on the choir and nave, in

the clerestory transept walls at Amiens,\* in the crossing piers of Troyes Cathedral, and in the eastern crossing piers of Notre-Dame at Paris. Although the latter curve slightly it is a curve which recedes outward, from the pavement up, and may therefore be included with the foregoing cases. An especially significant instance of inclination against the abutment of transept walls is furnished by St. Jacques at Rheims (exhibit).

Leaving Amiens for special later consideration we pause for a moment to consider the question of repairs and accidents at Troyes as typical for the entire class of Mr. Bilson's objections appealing to the existence of repairs. No cathedral in Europe has had more misfortunes than Troyes. Hardly another has such a discrediting record, unless it be Beauvais, if a general history of its accidents were set against a general mention of its leaning verticals. And yet it is positive that no vaulting thrust could operate against the resistance of the transept walls in such a way as to carry the crossing piers outward so as to slope from the pavement up. Still less could it be explained how thrust could produce a diminution of the outward slope in the upper half of the eastern piers. At the level of the clerestory a slight elbow and change of angle to diminish the outward slant is seen in each of the eastern crossing piers at Troyes, showing that the slope, as constructed from the pavement up to that point, was changed, because found to involve too great a widening if continued as begun (two exhibits).

I may allude here, in passing, to Mr. Bilson's ridicule of the lack of uniformity in the treatment of the verticals of Notre-Dame. That the shafts of the choir curve into the nave instead of away from it, like the crossing piers, and that they converge (6 inches) instead of diverging, may be intended to develop by contrast the divergence at the crossing, and the arrangement certainly has that result. At all events the latter facts cannot be ascribed to thrust, and as they are uniform they cannot be ascribed to carelessness. Mr. Bilson ridicules the lack of uniformity in these arrangements as between choir, crossing, and nave. Perhaps a difference of period and a change of builders might explain them, if I were allowed to take a leaf from the sceptic's own book.† Another point which Mr. Bilson finds ridiculous is that the tower piers at Paris and Amiens do not diverge like the piers of the naves.‡ Might it not have appeared unsafe to diverge these piers in view of the heavy loading of the towers? There are many churches, however, in which the view toward the choir appears to have been the one most carefully considered. Generally speaking, the

\* Edinburgh Catalogue, No. 15, with ill.; *Memoir* No. 4, p. 8, with ill.; *Architectural Record*, vol. xvi. No. 2, p. 122, with ill.

† *Memoir* No. 4, p. 65; a Renaissance instance dating 1638.

‡ The word "exhibit," where subsequently used, refers to a series of ninety enlargements, 20 x 24 inches, made during the summer of 1907, for use in the preparation of the latter part of this Reply, and for exhibition in the Brooklyn Museum. These exhibits were shown in September to various officers and members of the R.I.B.A. in London. A selection from these photographs was shown by M. Auguste Choisy at a session of the *Académie des Inscriptions et Belles-Lettres* in Paris on 23rd August.

§ Edinburgh Catalogue, Nos. 227, 228, 229, two ills.; *Memoir* No. 4, pp. 11, 12, two ills.; *Architectural Record*, vol. xvi. No. 2, pp. 128, 129, two ills. See also, later on, M. Aubertin's official certificate furnished in 1907 for publication in this Reply.

¶ Here there is also a constructive stepping back of the three upper bands of casing.

\* Photographed in 1907.

† The crossing piers of the Cathedral of Pisa converge in their vertical curves.

‡ They diverge, however, in Rheims Cathedral, where the tower buttresses are much heavier than they are at Paris or Amiens.

effort to make the arrangement inconspicuous is apparent in the construction of the widening refinement. It is evident that the diminution of spread frequently found near the entrance has this result, and on the same principle the absence of spread in the tower piers at Paris and Amiens could be explained. I fancy, however, that the heavy loading of these piers is one important explanation. It is easy also to quote churches in which the system employed is uniform as between entrance, nave, crossing, and choir. Notable examples are St. Mark's and St. Mary Diaconissa.\* Rouen Cathedral widens to the full amount (about 24 inches) at the entrance, and has very little widening at the crossing (three exhibits). The variety of the phenomena as found in the same church or as found in different churches is not all a matter for ridicule. It is a matter for serious study.

We return now to the characteristic feature of Notre-Dame for the present phase of the argument, viz. the divergence of the eastern crossing piers, as being fully as convincing as the widening at Trani and as representing the same kind of evidence. In Notre-Dame, as at Trani, if the facts are clearly understood and clearly realised, it is difficult to understand how any building expert can attribute these facts to accident. It must, of course, be understood that we are speaking of the eastern piers, because in them only the divergence starts at the pavement and is in lines which are practically straight. An outward thrust of the vaulting at the crossing could only operate by compressing the upper part of the transverse transept wall. This compression might conceivably result in a crumbling or displacement of the upper transverse wall, or the vaulting might conceivably compress the resisting transverse wall so as to bend or curve the crossing piers for some little distance downward, but that the force of thrust could operate to lean out the piers in lines which are practically straight from the pavement up, against the resistance of the transept walls, is positively inconceivable.

Another but analogous form of evidence is offered by the churches which widen vertically in the nave in straight lines, beginning at the pavement, against the thrust and massive weight of the aisle vaultings. In S. Ambrogio at Milan the piers which carry the vaulting shafts slant vertically outward throughout the nave from the pavement up and in straight lines, 6 inches on each side, against the thrust of the aisle vaults, which are very massive, and which carry massively constructed galleries at a height closely equal to that of the nave piers. Thus the piers of the nave widen 12 inches in straight lines in opposition to the aisle thrusts, and to the heavy loading of the galleries above them. That the vaulting thrust of

the nave has carried these galleries and their heavy vaultings bodily outward 6 inches to a side is wholly impossible. In fact the suggestion appears absurd. That the nave vaultings have been partly repaired and partly rebuilt is well known, but it is expressly stated by de Dartein that the ribs of the nave vaulting retained their integrity and survived this repair.\*

The Thomaskirche at Strassburg is another church of this class. The piers of the nave lean outward in straight lines from the pavement up, 5 inches to a side, against the thrust of aisle vaults, which are nearly as high as those of the nave. The piers of S. Ouen at Rouen incline outward, in straight lines from the pavement up, 6½ inches to a side (exhibit). Those of Rouen Cathedral incline outward a maximum of 12 to 13 inches to a side, in straight lines from the pavement up (two exhibits). In S. Ambrogio, in the Thomaskirche, in Rouen Cathedral, and a large number of other churches, a new form of evidence appears in the aisles, in which deep transverse chapel walls with massive responds are battered, so as to give a widening effect on the exterior side. The 1907 enlargement exhibit for the aisle responds of Rouen Cathedral shows a maximum inclination of over 8 inches in a height of 37 feet. The inclination is in straight lines, from the pavement up, against chapel walls which are 18 feet deep. It will be understood that the quotation of "exhibits" is confined to photographs made during the past summer, and that all buildings mentioned in this Paper, and many which are not mentioned, are represented in the Brooklyn Museum by enlarged photographs.

The same battering is found in the responds of transverse chapel walls exterior to the aisles, of other churches in which the widening of the nave begins, not at the pavement, but at the capitals.

We have thus reached the class of buildings to which the Amiens Cathedral belongs, those, viz., in which the outward divergence begins at the capitals of the piers of the nave, and, first and foremost, those are to be considered, like the nave and choir of the Cathedral of Amiens (as distinct from the curves of its crossing piers), in which the divergence is in straight lines from the capitals up.

Since at the height of the springing of the aisle vaultings there is an all-sufficient resistance to outward thrust from the nave vaulting, it is impossible that the nave vaulting thrust could operate in straight lines or even in a bent or curved line at so low a point, with sufficient force to carry the aisle vaultings bodily outward. This argument presumes, of course, that the piers of the nave are perpendicular; for if they have been pushed into the nave by aisle thrust then a return outward lean just above the springing of the aisle vault would be involved. That the nave piers up to the capitals

\* The latter with the qualification that the widening is in straight lines at the entrance and in bends at the choir.

\* F. de Dartein, *Étude sur l'Architecture Lombarde*, p. 134.

(as distinct from the vaulting-shafts) are generally perpendicular at Amiens is shown by twelve special exhibits [see fig. 1, p. 38]. Under these conditions we should expect to find the vertical bend in the nave at Amiens, if due to thrust, not lower down than the triforium string-course, rather than at the springing of the aisle vaulting where it actually begins (exhibits for each individual pier), in details which reach from the capital to the triforium [see fig. 2, p. 39].

The force of this consideration is much increased by the existence of a number of cases of this class in which the weight of one or more substantial galleries is added to the load which tends to resist an outward accidental lean in straight lines. At Laon, where the lower vaulted gallery is of great width, the widening of the nave begins in straight lines at the capitals of the piers, against the thrust of this vaulting and at a remarkably low height when compared with the height of the church (exhibit). At Strassburg the same widening in straight lines begins at the same related point. In Rheims Cathedral the same widening in straight lines begins at the same point (four exhibits) [see fig. 7, p. 50]. In Saint-Pierre at Caen the same facts appear.

Saint-Remi at Rheims is a church of this class. The widening begins at the capitals and rises in straight lines against the thrust of the aisle vaulting and against the thrust of a very wide vaulted gallery (exhibit).

Thus, when Mr. Bilson cites the nave vaulting of Saint-Remi as having been taken down and as being entirely rebuilt, the answer is that the nave vaulting could not have thrust in straight lines down to the mentioned point against the gallery vault and the aisle vault. Consequently the undoubted defects of the nave vaulting were independent of the quoted facts.

Although in St. Mark's at Venice the widening is not in straight lines, the facts are all the more pregnant on that account. The piers of the nave incline delicately outward from the pavement up. Thus we are positive that the strong recession immediately above the capitals is not due to the piers leaning into the nave. The strongest pitch in the widening is found directly above the capitals, against the thrust of the aisle vaults and against the weight of the galleries.

Thus in approaching a more specific examination of Mr. Bilson's criticism of my work at Amiens the following points, which appear to have been established, may be rehearsed. First, it is desirable not to confine the controversy to a single cathedral, because the apparent inherent improbabilities attaching to the announcement for that cathedral are considerably minimised when a greater number of churches are examined. Secondly, if the argument so far tends to show that the alleged refinement could not be produced by thrust in the quoted cases, the result also follows that such a system of construction would not aggravate or favour the

disrupting tendencies which thrust is known to promote.

There is a natural prejudice that things "out of plumb" are unsafe, and Mr. Bilson's description of "walls, piers, and columns out of plumb" has an ugly sound, and this ugly sound was intended. But when we consider the actual thickness and weight of walls and piers in the buildings named, there does not appear to be anything alarming in the facts described. If the arrangements are such that thrust could not produce them, then it follows also they are arrangements which would not aggravate thrust or tend to endanger the building. Outside of St. Mark's, where the divergence is greater than usual, and is produced in the upper walls by battering, the extreme amount of inclination in any building mentioned has been some 11 or 12 inches to a side.\* Now, when this amount of inclination is distributed through the entire height of the church or, in other cases, from the capitals up, the actual amount of lean in the clerestory wall is inconsiderable, and here only, if at all, could it be dangerous to the building. Whatever that small amount of lean might be, it would also evidently tend to forestall the upward lifting and grinding of the flying buttress which an accidental outward thrust and settlement would tend to produce.

In so far as piers have been found to be "out of plumb," the arrangement again tends to solidity, when the aisle thrust is considered.

When responds are "out of plumb," they face solid transverse walls and are again constructively stable.

When crossing piers are "out of plumb," they lean against a transverse transept wall, and the arrangement again promotes solidity or is certainly not antagonistic to it.

As to "columns out of plumb" I have never quoted any in the naves or constructive features of churches, or aside from arrangements similar to those in the clerestory of Notre-Dame, where the problem of solidity is not in question.†

Mr. Bilson might describe the sides of a Doric column as being "out of plumb," and this appears to be his way of looking at a slightly receding entasis such as we find in the responds facing the chapel walls in the Cathedral of Vicenza or in the slender pilasters in the angles of the choir at Laon. The transverse chapel walls at Vicenza are 25 feet deep, and the entasis has no more recession than that of a Corinthian column. Still these responds are undeniably "out of plumb," from 3 to 6 inches in a height of 30 feet! So are Palladio's pilasters "out of plumb" in S. Maria Maggiore at Venice and in the Teatro Olimpico at Vicenza. These

\* What the amount is at Amiens will be considered presently.

† I make the usual distinction here between a column (monolithic as to diameter) and a pier (possibly round) composed of masonry, which I assume to be familiar to the terminology of Mr. Bilson.



FIG. 1.—Plumb-line at pier No. 6 (Durand plan), north side of Amiens Cathedral (the fifth pier from the crossing, north side, in the numbering of this artist's). From No. 5 of the Brooklyn Museum enlargements for Amiens Cathedral, Series of 1907.



FIG. 2.—Plumb-line at vaulting-shaft, from capital to string-course, of pier No. 1 (Durand plan), north side, Amiens Cathedral (the sixth pier, north side, in the numbering of this article). The disc on the plane of the plumb measures 20 by 25 cm., or 8 by 10 inches. From No. 4 of the Brooklyn Museum enlargements for Amiens Cathedral, Series of 1907.

buildings offer a close and exact analogy to the facts in mediæval architecture; for the widening in the majority of mediæval cathedrals is not greater in relation to height than that obtained by the entasis in S. Giorgio Maggiore. At Noyon the curves of the nave are so delicate that they recede only 4 inches when the upper face of the piers is compared with the lower. The piers curve into the nave 1 inch and curve away from it 4 inches (exhibit). But Mr. Bilson assures us that this amount of widening is what led to the taking down and rebuilding by Pierre Tarisel of the nave vaulting! At all events, in Mr. Bilson's terminology, the curves at Noyon are "out of plumb."

The decisive proof that "refinements" exist at Noyon, even when enclosed in quotation marks, lies in the aisle responds, which face transverse chapel walls 17 feet deep, measured to the interior of the wall. They have an entasis of 2 inches recession in a height of 17 feet 8 inches (exhibit).

Thus we recur to Mr. Bilson's category in Class II., "Walls, piers, and columns out of plumb, sometimes straight, but more generally described as 'vertical curves.'" It is not worth while to quarrel about words, and Mr. Bilson has accurately described, according to his lights, the vista between two Doric columns. The "divergence" in mediæval churches is not relatively as great as it is at Piestun. As regards vertical curves, the instance of the choir at Laon is absolutely impregnable in the matter of thrust (three exhibits). As usual in such cases, Mr. Bilson passes by this one without mention, probably because the "widening" in the central light of the choir is one of the most convincing proofs ever offered for the existence of this refinement. The central window widens 6 inches (two exhibits). I have already mentioned that Noyon, Saint-Rami, and Beauvais, which are the only churches attacked by Mr. Bilson, aside from Paris and Amiens, were not included in the Edinburgh Exhibition, and a final word may now be said about Beauvais.

If the contention be admitted that the widening system was very frequently employed, and that the constructive evidence is good in a considerable number of cases, it undoubtedly follows that some of the serious accidents which were bound to happen during the craze for extremely high vaultings must have happened to churches which employed this system. In the *Edinburgh Catalogue* I mentioned Beauvais as follows: "The accident at Beauvais is not to be overlooked, but it would be begging the argument to assume that a church in which accidental movement has occurred had no divergence before the movement took place."

A re-examination of this cathedral in the summer of 1907 shows that I have been in error in my estimates of the divergence there. It throws an interesting light on Mr. Bilson's disposition to argue that the widening refinement is always related to accidents in the vaulting that I am able to report

that the cathedral whose vaulting fell twice has very little north and south widening at the crossing piers. The sixteenth century north-east crossing pier does not diverge from the perpendicular in the north and south directions, and it does not bulge; the south-east crossing pier has a delicate outward southward recession, as far as the thirteenth century portion of the pier is concerned, and does not bulge. The upper sixteenth century rebuilt portion does not diverge beyond the thirteenth century limit.

There is one point, however, which must not be forgotten, and that is to indicate the error into which Mr. Bilson has fallen in quoting this church. He says (p. 408): "So we have this curious fact, that Pierre Tarisel, who had executed at Amiens the costly and difficult work of inserting iron ties all around the cathedral in order to arrest the movement in the crossing piers and prevent their developing farther 'refinements' . . . was the expert called in to advise on the plans of the transept at Beauvais, which its architect, according to Mr. Goodyear, actually built with a widening even more pronounced than that which his adviser had been doing his best to arrest at Amiens." Mr. Bilson has forgotten his own quotation from the report of the Amiens Cathedral Commission of 1497-8, a commission including Pierre Tarisel, which is as follows: "The four principal pillars of the crossing of the said church are bent and arched on both sides by the thrust of the aisle vaults." The iron ties in the triforium at Amiens, according to Mr. Bilson's own quotation, were therefore intended to arrest a buckling below the triforium caused by "the thrust of the aisle vaults." The documents show that they had no reference to the widening above, which must have been due to a vaulting thrust from the crossing vault, if caused by thrust. At Beauvais the crossing piers have not buckled. Thus the satirical remark just quoted seems to lose its point, and neither Pierre Tarisel's consistency nor mine seems to be involved. Mr. Bilson ought not to forget, either, that the eastern crossing piers at Beauvais were originally built before the transept was planned, and that the south-east crossing pier is still thirteenth century work for three-fourths of its height.

As regards the iron cable in the triforium at Amiens, even if no documents were in question, it is evident that it would be useless as a means of arresting an outward spread above its own height. This appears from Mr. Bilson's own publication of the drawings in the workshop of the Amiens Cathedral, and thus we reach the debatable matters of fact at Amiens which are connected with these drawings.

Mr. Bilson's satirical remark about the accidental development of "refinements" in the Amiens crossing piers leads me to point out, as one among the weak spots of his argument for Amiens, his total neglect of the nave as regards attested and accurate observations, and his reliance on two

drawings made thirty-two years ago, in 1875, of the two southern crossing piers, for the amount of divergence throughout the cathedral. He assures us, regarding the nave (p. 415), and without offering any evidence whatever for his assertion, that "the divergences are so small that they are not appreciable to the eye, and whatever may be their precise extent they are certainly not greater, and probably are much less, than those of the crossing piers." If Mr. Bilson had "sighted on a plumb-line" he would hardly have ventured this statement, which I shall presently show to be glaringly inexact.

"Sighting on a plumb-line" occurs in quotation marks, which are supposed to be satirical, several times in Mr. Bilson's criticism. It is not, however, more ridiculous to sight on a plumb-line than to sight on a level. There is no other method of determining facts about the vertical lines of piers, excepting to sight on a plumb-line, unless the line can be hung directly against the pier. Mr. Bilson knows very well that this cannot be done in the Amiens nave, or in any great cathedral nave, without enormous expense. This is obviously the reason that he and M. Durand confined their own research to the publication of the drawings for the two southern crossing piers which were made thirty-two years ago, instead of taking measurements of their own throughout the cathedral nave.

In the Amiens transepts lines can be hung from the triforium which can be sighted on the piers if let down in front of them, but lines cannot be hung against these piers without a scaffold, unless a surveyor is slung on a platform by ropes let down through the apertures of the vaulting. In the transepts, if the plumb-line is sighted on the edge of a pier at the capital, the amount of vertical divergence below the triforium, to the height of the capital of the pier, can be estimated with approximate accuracy from the known diameter of the outer rib at the base. Supposing that the line, when sighted from the edge of the pier at the capital, cuts off about a quarter, or about a fifth of the diameter of the outer rib at the base, and that this diameter is 15 inches, then we obtain a rough estimate of the vertical divergence as a quarter or a fifth of 15 inches.

There is a further and complete accuracy obtainable—viz. by photographing the sighting, as taken under the conditions described, with a surveyor's rod and disc on the plane of the estimate to be made, which, in the Amiens transepts, would be at the rib of the pier. All my estimates in the Amiens transepts which were made in 1903 were verified in this way, excepting in those cases where the monuments placed in front of the piers interfered with hanging a line from the triforium. This method of photographic measurement, with a plumb-line "sighted" by the camera (if Mr. Bilson will continue to accept a phraseology which appears to amuse him), has the great advantage of dis-

persing with the necessity of hanging a line against the surface, which is impossible in any great cathedral as regards the piers, without a prohibitive expense.

So far I have explained the methods which I adopted in 1903 for "sighting on a plumb-line" in the Amiens transepts, and these methods are not only practical and defensible when the observations are attested and corroborated by enlarged photographs, but they are also the only methods which are practically available at Amiens in view of the enormous dimensions and altitudes of this cathedral. On the other hand, in the case of a plumb-line suspended in the Amiens nave, the openings in the vaulting near the crossing do not admit of an adjustment of the line which will allow accurate sighting (this adjustment is obtained in the transepts by having an assistant in the triforium who moves the line to the indicated sighting point). In spite of this apparent difficulty a carefully levelled photograph will allow of an accurate estimate, because the distance of the line from the edge of the pier at the base can be subtracted by compass measurement from the distance of the line from the edge of the pier at the capital. For this operation it is desirable, however, to have an enlargement. (For those sceptical persons who do not know that Goerz and Zeiss lenses are rectilinear it is sufficient to point out that a lens which distorts the pier will also distort the plumb-line, so that the punishment for taking an unreliable photograph will immediately fit the crime.)

During my first survey visit to Amiens (in 1903) which lasted only five days and a half, most of my time was devoted to the transepts, as the nave did not appear to vary from the facts elsewhere known to exist. On the fifth day of my work, the sacristan, M. Regnant, suggested hanging a line through an opening in the vaulting of the nave. I gladly adopted the idea, which I had never previously tried. A black tape was used, which had served its purpose successfully in the transepts. The next step was to photograph this line, which was hung for that purpose, and then from the known diameter of the outer rib of the crossing pier to estimate the divergence of the crossing pier, after an enlargement had been obtained. It was, however, my first experience in suspending a tape from such a lofty height, and at the great distance from the camera, placed in the organ gallery at the west end of the cathedral, which this altitude involved. I did not realise that a tape will not show under such conditions, even in the most excellent negative, unless suspended in front of a light background of masonry surface. The negative was reported to be excellent by the Amiens photographer who developed it, and I left Amiens the next day; but when the negative was printed in Paris the tape could not be seen.

This is an exact account of my first plumb in the Amiens nave, and the only one taken until 1907,



FIG. 2.—Cable plans on the South-east Crossing Pier, showing the tran into the nave of the north transept. From No. 63 of the Brooklyn Museum enlargement exhibits for Amiens Cathedral, Series of 1907.

when I have photographed over two hundred plumb measurements in the cathedral, a large proportion of which have been in the nave. Some fifty plumbs in the nave furnish photographic exhibits in the way of enlargements, made for reference in preparing this reply to Mr. Bilson. Meantime, and before the work of 1907, I have quoted an estimate which my photograph of 1903 would have guarded me from publishing if it had served the purpose for which it was taken. Strictly speaking, it was not possible to sight on the nave plumb-line of 1903, for it was necessarily some little distance removed from the crossing pier toward the centre of the nave. I remember using the known diameter of the rib as the basis of my estimate, but may have omitted to subtract the distance of the line from the base of the pier, in subsequent use of my notes. There is a remarkably strong optical illusion, due to the vaulting ribs, which very much exaggerates the appearance of recession at the Amiens crossing, which illusion can only be rectified by photographic compass measurement.

Mr. Bilson's success in making off-hand estimates of the divergence in the Amiens nave has not been phenomenal, for he is on record, as just quoted, for the assertion that this divergence is "inappreciable by the eye," whereas its maximum amount is 19 inches or over. Mr. Bilson has also apparently been the victim of the optical illusion occasioned by the vaulting ribs of the aisles which cause the piers to appear to lean into the nave. This is indicated by his assertion that "some movements have taken place in the nave caused by the thrust of the aisle vaults inward." It is now demonstrated by exhibits submitted for each individual pier of the nave (as distinguished from the crossing), and with a distinct and separate plumb-line for each pier, that every pier on the north side is strictly perpendicular to the height of the capital [see fig. 1], and that two piers of the south side are strictly perpendicular (those next the crossing). In the remaining four piers the inward inclination up to the capital varies from less than 1 inch to 1½ inches as a maximum. Thus the statement that "movements have taken place in the nave caused by the thrust of the aisle vaults inward" appears

to rest on an optical illusion which I cannot myself overcome without the aid of the plumb-lines which Mr. Bilson has so scornfully and so imprudently rejected in his own observations.

For the student of Mr. Bilson's criticism I cannot offer a more convincing proof of his delinquencies as an observer than the extraordinary oversight which has led him to publish as reliable documents the drawings of the southern crossing piers, which make such an imposing appearance in his Paper.

M. Durand has also been over-hasty in his confidence in these drawings. That they are carefully executed is perfectly true, but that they are also unreliable is easily shown. If Mr. Bilson and M. Durand will "sight on a plumb-line" at the south-east crossing pier of Amiens Cathedral, they will immediately admit that these drawings are not reliable. For instance, the north lower face of the south-east crossing pier leans into the nave 3 inches (0.075 m.; two exhibits, Nos. 29 and 65), whereas the cathedral office drawing represents the north lower face as perpendicular [see fig. 3].

Aside from the exhibits represented by fig. 3, I had made two photographs of this inclination in 1903 (after "sighting on a plumb-line") with the line in position, and a surveyor's rod beside the pier, to furnish the measurement. I had had these photographs enlarged to 25 by 35 inches for the Brooklyn Museum exhibit, and they are catalogued and described in the *Museum Memoir* No. 4 (Nos. 54-55), a publication which I sent M. Durand, and which is quoted by Mr. Bilson. Therefore, when the drawings furnished Mr. Bilson by M. Durand came to my notice in the *Journal R.I.B.A.* I was inclined to view them with great

suspicion, as probably containing other errors beside the one which was most obvious, and this suspicion has been verified. The drawing for the south-west crossing pier is in error for its upper measurement, north face, to the amount of 1½ inches (0.04 m.), as shown by exhibit 37. The measurement should thus be corrected to 0.14 m. instead of 0.10 m. Since the drawing of the south-east pier is in error 0.075 m. for the lower face, the upper measure is to be corrected from 0.125 m. to 0.20 m.

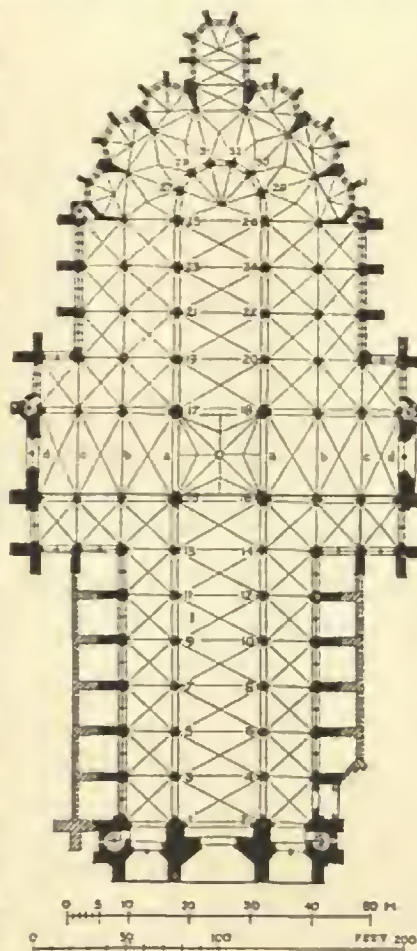


FIG. 1.—PLAN OF AMIENS CATHEDRAL, WITH M. DURAND'S NUMBERING OF THE PIERS.

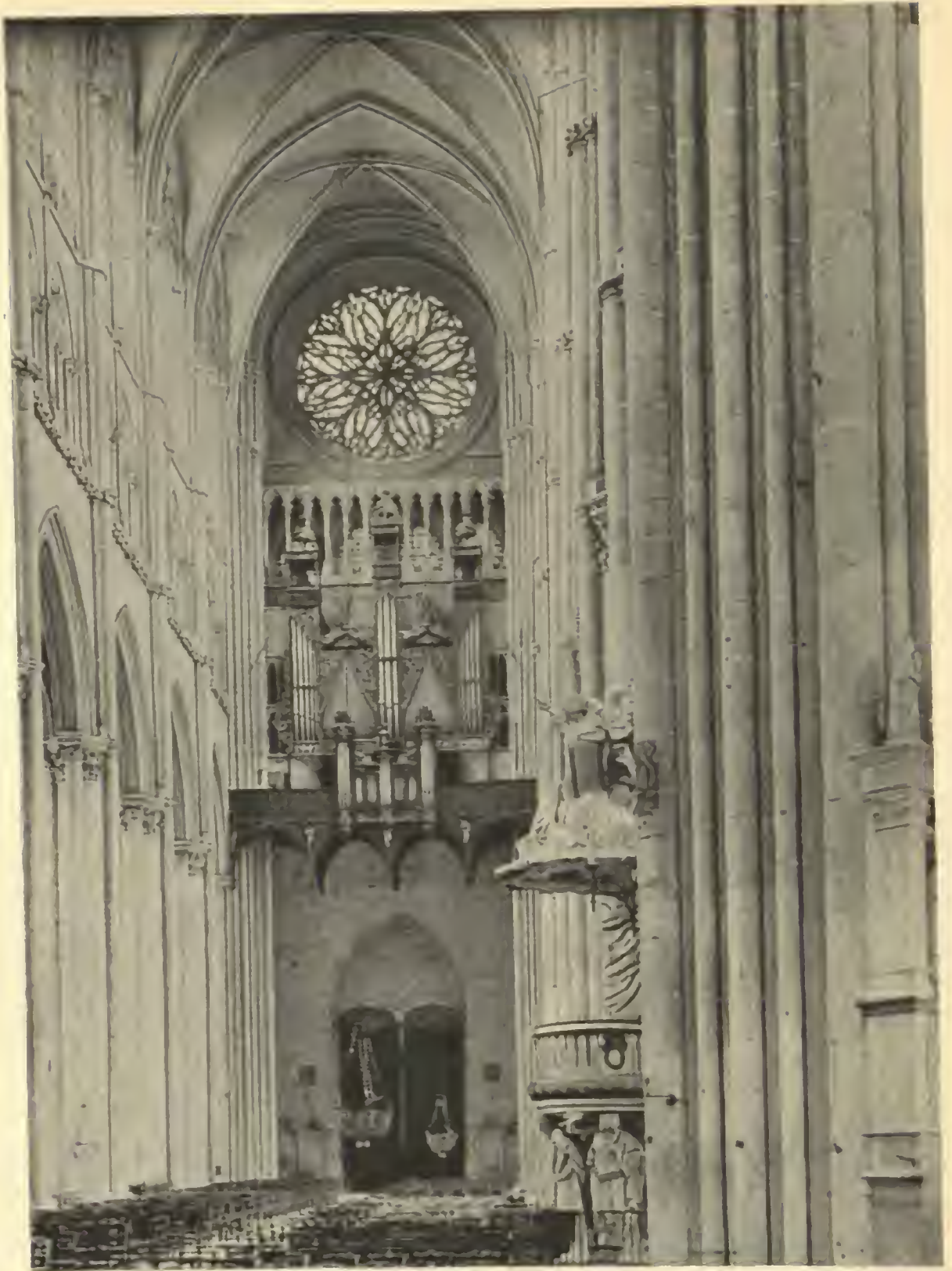


FIG. 5.—Piers on piers 7 and 8 (Dorant plan), north side (Nos. 4 and 5 in the numbering of this article). Surveyors' lines (5 by 10 inches) on the planes of measurement. From No. 12 of the Brooklyn Museum enlargements for Amiens Cathedral, Series of 1907. The plumb-line is concealed between the piers below the capitals, but these piers are shown as perpendicular to the height of the capital by fig. 1.

Exhibit 37 is represented, in much diminished size, by fig. 6. The reduction from  $20 \times 24$  inches to  $6 \times 8\frac{1}{2}$  makes the application of the compass test, based on the surveyor's disc to the left of the pier, an over-delicate operation, but the measurement of 5 inches for the divergence of this south-west crossing pier may be tested on fig. 6 with this warning. My own measurements are naturally based, in all cases, on the enlargements and not on the illustrations of reduced size. Fig. 3 displays more clearly the error of the office drawing for the south-east crossing pier, because the dimension is doubled for the given height.

I have not yet tested the accuracy of these drawings for the east and west sides of the crossing piers, the sides which face the transept, as this question does not concern the present argument, but each drawing is in error for the northern faces. When enlargements are made of the photographs of my north and south transept plumbs the test for the east and west faces will be an easy one. It ought to be added that the taking of plumb measurements from platforms slung from ropes let through the vaulting is an operation of great difficulty, and almost infallibly liable to error, and that the office clerk of 1875 who did or supervised this work had no easy task. Mr. Bilson's haste in accepting these rather ancient documents, in preference to making tests of his own, is possibly explained by the great expense and great difficulty of taking actual plumbs or by his contempt for scientific photography."

M. Favry, the *Inspecteur des Travaux* at Amiens, is now aware of the unreliable character of these drawings, and I took pains to assure myself, with his assistance, that they have been correctly copied, and that the errors are in the originals. As just indicated, I have prepared two special photographic enlargements to illustrate the remarkable error in the drawing for the south-east pier, and one enlargement is submitted to show the error for the south-west pier. However, in spite of the premature and rather indiscreet hilarity of some portions of Mr. Bilson's Paper, I owe him much sincere gratitude for his article, especially so because the fact, immediately forced on my attention, when this article appeared, that the drawings furnished by M. Durand were not trustworthy, has obliged me to make a new and thorough study of the vertical measurements at Amiens, and has enabled me to correct my own errors as well as those of Mr. Bilson.

My photographic measurements of 1907 for the divergences of the crossing piers are a great deal less than my estimate of 1903, which was not verified by photographic methods, for reasons explained, and I am vastly pleased to be able to

\* M. Choisy has expressed the opinion to me that my own photographic methods for such cases are much more reliable than actual plumbs from scaffolds or slung platforms.

correct that estimate in the table of measurements which follows.

This table of measurements for the vertical divergences of the nave and crossing piers is supported by thirty-eight exhibits, to be subsequently enumerated and described. In my own numbering of piers I have continued the methods which I used in my photographic notes, but the numbers of the Durand plan are also supplied, as found in fig. 4. My own numbering enumerates the piers in order from the crossing, not included, as far as the organ gallery and the tower piers at the entrance, which are also not included, as having no divergence.

RECESSIONS IN THE PIERS OF THE AMIENS NAVE AND CROSSING (IN INCHES).

All recessions, except at the crossing, are in straight lines, and all begin at the capitals, or, in the case of the crossing piers, at the corresponding height.

NORTH.	SOUTH.
East Crossing (17).*	East Crossing (18).
Recession, 5; bulge, $1\frac{1}{4}$ .†	Recession, 5; bulge, 3.
West Crossing (15).	West Crossing (16).
Recession, 5; bulge, less than 1 inch.	Recession, 5; bulge doubtful, if any.‡
First Pier (13).‡	First Pier (14).
Shaft recession, 7; pier perpendicular.	Shaft recession, 5; pier perpendicular.
Second Pier (11).	Second Pier (12).
Shaft recession, $8\frac{1}{2}$ ; pier perpendicular.	Shaft recession, $6\frac{1}{2}$ ; pier perpendicular.
Third Pier (9).	Third Pier (10).
Shaft recession, $8\frac{1}{2}$ -8; pier perpendicular.	Shaft recession, 7-6; pier leans in, $1\frac{1}{2}$ .
Fourth Pier (7).	Fourth Pier (8).
Shaft recession, $9\frac{1}{2}$ -9; pier perpendicular.	Shaft recession, $5\frac{1}{2}$ - $6\frac{1}{2}$ ; pier leans in, 1.
Fifth Pier (5).	Fifth Pier (6).
Shaft recession, 12-11½; pier perpendicular.	Shaft recession, $7\frac{1}{2}$ - $6\frac{1}{2}$ ; pier leans in, $1\frac{1}{2}$ .
Sixth Pier (3).	Sixth Pier (4).
Shaft recession, $7\frac{1}{2}$ ; pier perpendicular.	Shaft recession, $6\frac{1}{2}$ ; pier leans in, $1\frac{1}{2}$ .

It will be noticed that double estimates, offering slight variations, are given for the third, fourth, and fifth piers on each side (Durand plan 9, 10; 7, 8; 5, 6). The right hand measurements in

\* These numbers relate to M. Durand's plan, as reproduced in fig. 4.

† The recessions are figured without including the bulges; in other words, they are figured from the base to the capital at the vaulting ribs. This method differs from that of the cathedral office drawings. On that method the recession would be  $6\frac{1}{4}$  inches for the north-east crossing pier and 8 inches for the south-east crossing pier.

‡ The cathedral office drawing gives 0.15 m. bulge, or less than  $\frac{1}{2}$  of an inch. If a bulge exists, it is certainly not more. My own observation shows a slight builder's error in some of the masonry courses rather than a bulge. The photographic detail enlargement will enable each student who examines it to form his own conclusion. M. Choisy's impression of this enlargement coincides with my own.



FIG. 6.—Plumb on the South-west Crossing Pier, Amiens Cathedral (No. 16, Durand plates). From No. 17 of the Brooklyn Museum enlargements for Amiens Cathedral, Series of 1907.

these cases are from photographic surveys, with plumb-lines reaching, in the photograph, from the base to the capital of the shaft at the vaulting, and with a surveyor's disc on the plane of the given pier at its exact centre. Fig. 5 (p. 44) represents in much reduced size an enlargement of this class. The left-hand measurements for the same piers are figured on a wholly different method, which was also applied to all the piers for which single measurements are quoted—i.e. by combining the measurement furnished by a specially enlarged photographic detail of a plumb with disc measurement from the triforium string to the capital of the pier (where the outward slant begins); with another estimate for the triforium and the clerestory based on actual plumbs inside the triforium. As the divergences are visibly in straight lines and are attested to be so by a very large number of enlarged details, and other special photographs, the method has been followed of computing the divergence of the upper triforium and the clerestory from an actual plumb with line of 15 feet at each shaft in the triforium. The close correspondences of measurement obtained by these wholly different procedures are notable. The method of the combination estimates has been applied to the first, second, and sixth piers, and these are the only estimates offered for these piers. Fig. 2 represents the type of enlargements for the vaulting-shafts between the capital of the pier and the triforium string. The measurements for the recession of the crossing piers are obtained from plumb-lines, reaching in the photographs from base to capital at the vaulting. Fig. 6 represents this type of enlargements. The measurements for the bulges of the crossing piers are obtained from photographic enlarged details, separately taken, for the height from the base to the level of the triforium string.

The estimates published are verified, as stated, by thirty-eight exhibits of photographs enlarged to 20 x 24 inches, made up as follows: Eight details to a side for the piers of the nave up to the capital of the piers—i.e. to the springing of the aisle vaults, and for the crossing piers to the triforium string; six details to a side for the vaulting-shafts of the nave, from the capitals of the piers to the triforium string; five photographs to a side for the third, fourth, and fifth piers, and for the crossing piers, taken from the base to the capital of the shaft at the vaulting—each and every photograph of the entire series with plumb-line, and with a surveyor's disc on the exact plane of the desired measurement. As far as the illustrations of the present article are concerned, the method of obtaining the measurements from the disc is best shown by fig. 2, because the disc appears there in larger dimensions than in the other illustrations.

It will be noticed that the measurements on the south side of the nave are invariably considerably

smaller than the corresponding ones on the north side, excepting at the crossing, where the recessions correspond in all four instances (although the bulges do not). It is also worth noting that, although the divergences are all greater on the north side, it is the piers of the north side which are all accurately perpendicular. The measurements of the south side, which are taken from the base to the vaulting for the third, fourth, and fifth piers, eliminate, however, the slight leans into the nave of the corresponding piers.

All the vaulting-shafts of the north side step forward slightly (about one inch) at the capitals of the piers; a fact shown by every photographic detail for the north side. An inch is therefore subtracted from each combination estimate for the north side. This stepping forward is found in only one pier of the south side—the sixth in my numbering, No. 4 of the Durand plan (the pier next to the organ gallery and to the tower pier).

The fifth vaulting-shaft on the north side steps back two inches at the clerestory, and is the only one which steps back on either side (exhibit No. 42). Thus two inches are added to the combination estimate for the fifth vaulting-shaft, north side (No. 5 Durand plan), in order to obtain a just comparison with the photographic measure, from base to vaulting of the same pier. The two distinct estimates then tally within half an inch.

I am now able to return to an argument which Mr. Bilson has contemptuously waived aside, after declaring (p. 416) that "the divergences (in the nave) are so small that they are inappreciable to the eye, and whatever may be their precise extent they are certainly not greater and probably are much less than those of the crossing piers."

If the Amiens nave has spread accidentally, in amounts varying from 12 to 19 inches, the crown of the vaulting-arches should have subsided at least one half the given amount of divergence. If these vaulting-arches have gone down they must have become distorted, and if they have been distorted that distortion must be visible. Mr. Bilson lays great stress on the extent to which a vault may settle without falling in, but he does not, and cannot, say that such vaultings have not been depressed and distorted. Now the Amiens nave vaulting is true throughout to a single pitch, which has visibly not gone down at the crown (exhibit 49 and several others). There is a slight distortion of the ribs of the vaulting which correspond to the fifth pier north of my numbering (No. 5, Durand plan), but there is no subsidence there at the crown.

M. Durand's excellent book gives us to understand that the Amiens nave vaulting has never been repaired. Viollet-le-Duc says in his *Dictionary* (article Cathedral): "Cependant cette nef dont la hauteur est de 42.50m. sous-clef et la largeur

d'axe en axe des piles de 14.60m. ne s'est ni déformée ni déversée. La construction n'a subi aucune altération sensible."

Mr. Bilson will hardly say that the Amiens vaulting could settle downwards 10 inches at the fifth pier (one-half the widening at that point) without calling for some repairs, at some time or other, or without showing some signs of depression and distortion which would have attracted the notice of Viollet-le-Duc, and which would also be visible now.

But there is a better argument than this, because it is not an argument, but a palpable fact. It is a fact which leaves on one side all debate as to measurements, which must be extremely tedious to everyone but Mr. Bilson and myself.

A nave vaulting thrust cannot push outward the surfaces and vaulting shafts below the triforium, because below that line it cannot push bodily outward the enormous masses of the aisle vaultings and their buttresses. If such a thrust were possible, it can certainly never be suggested that it could operate in straight lines, and in uniformly flat surfaces, from start to finish. Hence I leave this part of the subject with a final reference to the twelve exhibits for the perpendiculars of the piers of the nave, which prove that the recessions, beginning in all cases directly above the capitals, are not caused by inclination of these piers into the nave. I also call attention to the twelve exhibits for the outward slope between the capitals and the triforium, as proving that this slope begins invariably at the capitals. In other words the entire surface of the masonry has a constructive batter up to the triforium string.

As regards the transepts at Amiens, Mr. Bilson is undoubtedly right about the tapering of piers, and he is just as undoubtedly wrong about the leaning windows and their mullions. He speaks of one; but there are two, one in each transept, with sills which are oblique in directions opposed to the lean of the mullions (four exhibits, Nos. 53-56). It is only quite recently that I have mastered a real knowledge of the Amiens transepts (sixteen exhibits, 50-64 and 59a). This knowledge I will endeavour to convey to Mr. Bilson and M. Durand in some future publication.

There are numerous points in Mr. Bilson's argument about Amiens which I have not noticed, but there are none which I have not covered. He accuses me of neglecting to notice the repairs of the choir. What is the use of considering them when there have been no repairs in the nave vaulting? His argument on the crossing piers also has no point, because it does not cover the nave, which, aside from vague and erroneous assertions, he has entirely neglected. The cracked and broken lintels in the triforium have been explained by M. Durand in a most interesting and conclusive way, which has escaped Mr. Bilson's attention. Suffice it to say that M. Durand proves

that they are not due to thrust from the nave vaulting.\*

I may add that Mr. Bilson has shown a certain lack of caution in one of the closing paragraphs of his Paper. He says: "It may be well to see how these theories of his have been received in France by those most competent to pass an opinion upon them," then quoting the names of three distinguished scholars, none of whom are engineers.

May there not be other French scholars who are also both engineers and architects who have formed and publicly expressed a more favourable opinion? Mr. Bilson takes much upon himself in undertaking to state so summarily and so absolutely what the opinions may be of those in France who are most competent to pass an opinion on my work. I commend to Mr. Bilson's attention a pamphlet which I have recently published on the Cathedral of Rheims, containing some extracts from a letter addressed to me by M. Auguste Choisy (one among very many letters from him which are full of friendly encouragement and praise).

I will not follow Mr. Bilson farther in the dangerous path on which he has entered. I will only say that MM. Lefèvre-Pontalis and de Lasteyrie are gentlemen from whom it is a real pleasure to differ, and I commend to Mr. Bilson a more intimate study of their polished and delicate style of dissent. When choice of weapons is allowable, I much prefer the rapier to the club.

Another and not less extraordinary phase of Mr. Bilson's effort to discredit my work in France is his closing sentence: "When the other French churches investigated by Mr. Goodyear have been the subject of monographs as exhaustive as that of M. Durand on Amiens, there will be no difficulty in producing equally conclusive proof that their 'refinements' exist only in Mr. Goodyear's imagination."

I am not aware of anything in M. Durand's book which antagonises my observations at Amiens. On the contrary, this book has been of the greatest possible assistance to me. It is my main authority, aside from Viollet-le-Duc's statement, for the fact that there have been no repairs or rebuilding in the vaulting of the Amiens nave, which is to my argument a fact of considerable moment. M. Durand's book was written without knowledge of my investi-

\* *Cathédrale d'Amiens*. Georges Durand, Tome I<sup>re</sup>, page 222: "Les têtes des arcs boutants sont soutenues par les colonnes engagées I, k, qui appartiennent au maître pilier: elles sont raidies par les deux colonnes superposées G., H., formées de pierre en délit, s'élevant à environ 60 centimètres en avant des colonnes engagées I, k, et posées sur le mur de clôture du triforium renforcé d'un petit contrefort en pierre à faux sur le mur élevé sur l'arc de décharge qui passe par dessus le doubleau du bas côté. Ce petit contrefort a été relié au maître pilier par deux linteaux monolithes E, F. formant parapet."

Note 1. "La compressibilité des parties intérieure et postérieure du pilier se trouvant inégale par suite de la rigidité de la colonne G, qui est en délit, un certain nombre de linteaux E se sont brisés." (*Italics* by W. H. G.)

gations, which were not published for Amiens or for France until some months after his book appeared. The book was also evidently written without any knowledge of the true amount of widening in the Amiens nave, inasmuch as M. Durand furnished Mr. Bilson with drawings for the crossing piers, which are presumed by Mr. Bilson to show a greater widening than occurs in the nave. M. Durand evidently has held the same mistaken opinion. Consequently it again appears that the topic of a widening in the Amiens nave is quite foreign to M. Durand's book. That M. Durand personally does not accept my views about the Amiens Cathedral is a fact for which Mr. Bilson's statement must be accepted; but since M. Durand's book does not debate the subject which I have agitated, how can it offer "conclusive proof" that I am mistaken?

Clearly, in Mr. Bilson's opinion, it must be M. Durand's history of repairs which indirectly discredits my opinions. But this same history of repairs is my authority for the statement (aside from Viollet-le-Duc's utterance) that the nave vaulting has never been repaired. If the nave vaulting had been rebuilt or repaired, M. Durand would have known it and M. Durand would have mentioned it. That is what his book is for. Truly a most excellent book! And yet I fear that this same good book may be the cause of M. Durand's opposition to my views. It is not easy for an author who has written the finest cathedral monograph extant (aside from Cattaneo's text in the Ongania publication for St. Mark's) to admit that he has omitted to mention in that book the most interesting feature of the Amiens Cathedral, and this is exactly what M. Durand has omitted to do.

From another point of view, I consider Mr. Bilson's fratricidal effort to crush me under the weight of M. Durand's ponderous two volumes equally extraordinary: "When the other French churches investigated by Mr. Goodyear have been the subject of monographs as exhaustive as that of M. Durand, there will be no difficulty in producing equally conclusive proof that their 'refinements' exist only in Mr. Goodyear's imagination."

This is placing M. Durand on a pedestal from which he will certainly be in great danger of falling as soon as it appears that these "refinements" exist also "in the imagination" of (let us say, for example) the *Inspecteur des Travaux* at Amiens or the *Inspecteur des Travaux* at Rheims.

Now, this is exactly what has happened, and this leads me to quote the following letter from the *Inspecteur des Travaux* at Rheims:

ADMINISTRATION DES CULTES. ÉDIFICES CULTUELS ET MONUMENTS HISTORIQUES.

Agence des Travaux, Reims, le 3 Juillet 1907.

MONSIEUR, — Je suis heureux d'avoir pu constater et avec beaucoup d'intérêt certaines déformations à notre Cathédrale.

En effet, et ainsi que vous avez bien voulu me le faire remarquer, j'ai pu voir qu'à Reims les piliers de la grande

nef avaient conservé leur verticalité, mais qu'à partir des chapiteaux ils se déversaient graduellement vers l'extérieur jusqu'à la naissance des voûtes.

Ces déformations remarquées également par vous dans d'autres édifices de la région me paraissent voulues par les architectes chargés d'édifier ces monuments et avoir été faites en construisant.

Elles ne sauraient être attribuées au manque de résistance des arcs boutants très puissants à Reims; d'autant plus que ces mêmes déformations sont constatées sur tous les piliers et même aux environs du transept où nous avons des maçonneries rendant toute poussée des voûtes impossible.

Il faut voir là, à mon avis, certains effets voulus de grandeur, tout à l'avantage de l'édifice.

Veuillez agréer, Monsieur, l'expression de mes sentiments distingués.

L. MARGOTIN,

Architecte diplômé du Gouvernement,

Inspecteur des Travaux à la Cathédrale de Reims.

M. Wm. H. GOODYEAR.

Certificate of M. Leon Margotin. [Translation.]

SIR,—I am pleased to have been able to verify, and with great interest, certain distortions (*déformations*) in our cathedral.

In fact, and as you have been kind enough to point out, I have been able to observe that at Rheims the piers of the nave have preserved their perpendicular, but that, above the capitals, they diverge gradually toward the exterior up to the springing of the vault.

These distortions, also observed by you in other buildings of our territory, appear to me intended by the architects who were charged with the construction of these monuments, and to have been arrangements of construction.

They cannot be attributed to a lack of resistance in the powerful flying buttresses at Reims, especially since these same distortions are verified in all the piers and even near the transepts, where the masonry constructions make any thrust from the vaults impossible.

In my opinion, we must recognise certain effects of grandeur as having been purposed, which are wholly to the advantage of the edifice.

Please accept, Sir, the expression of my cordial regard.

L. MARGOTIN,

Architecte diplômé du Gouvernement,

Inspecteur des Travaux à la Cathédrale de Reims.

These "refinements" also "exist in the imagination" of an architect who is intimately acquainted with the Church of St. Loup at Châlons, as appears from the following letter:

A. AUBERTIN, architecte.

Châlons-sur-Marne.

Je soussigné, Aubertin, Albert, Architecte à Châlons-sur-Marne, auteur de la flèche et autres réparations à l'Eglise Saint-Loup, estime que les hors d'aplomb très visibles sur les quatre gros piliers du transept et sur les piliers des chapelles latérales ne sont pas le résultat de poussées, mais que cet état date de la construction de l'Eglise.

Il y a là un effet voulu par le constructeur, les piliers et les arcs forment ainsi une sorte de fer à cheval, destiné à corriger ou plutôt à modifier les effets de la perspective.

Le hors d'aplomb part de la base des piliers; aucuns désordres ne se manifestent aux alentours, ni dans les murs, ni dans les arêtes des arcs doubleaux et autres voûtes.

Fait à Châlons le 27 juin 1907.

A. AUBERTIN.



FIG. 7.—Plumb-line (suspended from a leaden pole), north side of the nave, Reims Cathedral. From a Brooklyn Museum enlargement, Series of 1907.

*Certificate of M. Aubertin. [Translation.]*

A. AUBERTIN, architect.

Châlons-sur-Marne.

I, the undersigned, Albert Aubertin, Architect at Châlons-sur-Marne, author of the spire and other works of repair on the Church of St. Loup, consider that the very visible inclinations of the four great piers at the transepts, and of the pillars of the aisle chapels, are not the result of thrust; but that their condition dates from the construction of the church.

Here is an effect designed by the builder, and the arches thus display a sort of horse-shoe form, destined to correct, or rather to modify, the effects of perspective.

The inclinations begin at the bases of the piers; there are no defects in the adjacent masonry, either in the walls or in the vaulting ribs or vaultings.

Given at Châlons, 27th June 1907.

A. AUBERTIN.

Not only do these "refinements" thus appear "to exist in the imagination" of the *Inspecteur des Travaux* at Rheims and of an architect at Châlons, but, sad to relate, the *Inspecteur des Travaux* at Amiens, M. Favry, who furnished the drawings of the crossing piers to M. Durand for Mr. Bilson's use, is another dangerous lunatic. Not only do the "refinements" now "exist in his imagination" at Amiens, but he even has "theories" to explain them! The full account of M. Favry's conversion to my dangerous heresies would make an interesting story. Suffice it to say that during fourteen weeks, mainly spent in Amiens, the intercourse between M. Favry and myself was limited to the initial interview in which he most courteously provided me with the assistance needed for my work.\* Meantime (knowing also that he had furnished the drawings of the crossing piers to M. Durand), I gathered from a slight coolness on his part during casual and accidental meetings that he was not an enthusiastic believer in the "widening refinement," which, however, we did not discuss. At the end of fourteen weeks my ammunition was in readiness in the shape of sixty-five enlargements of the Amiens Cathedral. These were transported to the Sacristie des Chanoines, and M. Favry was

invited to inspect them. "He came, he saw, and I conquered." M. Favry and I did not on that day, or previously, inspect the cathedral itself, and we have never been together in the Amiens nave. He is certainly as familiar with that nave as anyone can be, as far as eyesight is concerned; and I tell this story because I know no other way of putting the point so clearly that a true knowledge of the measurements for the verticals in any great cathedral can only be obtained or conveyed by scientifically photographed plumb-lines.

There are three distinct optical illusions by which the observer is constantly deceived in cathedral interiors, and which can only be overcome by photography. There is the illusion, due to perspective convergence of the verticals, which causes them to appear perpendicular when they really diverge. This is the illusion which has deceived Mr. Bilson and M. Durand in the nave at Amiens. There is the illusion produced by the aisle vaulting ribs, which give an appearance of leaning into the nave to piers which are sighted on the side of the aisle. It is also true for standpoints in the nave that divergent verticals above the capitals of the piers are naturally assumed by the eye to be perpendicular. In that case the piers again seem to lean inward. Then there is the illusion of the vaulting ribs of the nave or choir which tend to exaggerate an actual divergence, or to create an effect of divergence and curvature where none really exist. These illusions operate variously, according to the position of the spectator and according to the special feature on which the eye is centred. They are also undoubtedly affected by the personal equation and by the personal disposition or prejudice in favour of a preconceived idea. The illusion due to perspective convergence explains the general modern oversight of a divergence in the naves of mediæval churches, which is undoubtedly much more general in its diffusion and much more pronounced in its amount than has hitherto been realised by mediæval archaeology. The Brooklyn Museum photographs represent the first modern effort to illustrate these facts. An acquaintance with these photographs will dispense with a vast amount of discussion and debate. In the case of the majority of experts such acquaintance will produce a final and definite conviction. My experience with M. Favry offers a case in point, and has been cited for this reason.

Mr. Bilson will be much amused to learn that I still, occasionally, "sight on a plumb-line."

\* Since the broad black tape used in 1903 had turned out to be invisible for photography in the cathedral nave, I began work this season with a cable of an inch and a half diameter which was suspended from six different apertures in the vaulting. The united efforts of three or four workmen were needed to hold the enormous length of this heavy cable through the vaulting apertures. After two weeks' work in photographing the cable, I devised less cumbersome methods for obtaining photographic measurements.

## MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1907-08, held Monday, 4th November 1907, at 8 p.m.—Present: Mr. Thomas E. Colcutt, *President*, in the Chair; 56 Fellows (including 16 members of the Council), 47 Associates (including 8 members of the Council), and numerous visitors—the Minutes of the Special General Meeting held 15th July 1907 were taken as read and signed as correct.

The President announced that the Cape Institute of Architects had been admitted by the Council to alliance with the Royal Institute under By-law 77.

The President formally presented the new Medal which had been generously designed for the Institute by Mr. George Frampton, R.A. [I.A.]; whereupon, on the motion of the President, a cordial vote of thanks was passed to Mr. Frampton by acclamation.

The Hon. Secretary, Mr. Alexander Graham, F.S.A., announced the decease of the following members:—Thomas Turnbull (New Zealand) and William Leek (Johannesburg), *Fellows*, and Nathaniel James Stanger, Augustus Eldred Hughes, and Richard Lloyd Williams (Denbigh), *Associates*.

The Hon. Secretary also announced the decease of George Frederick Rodley, R.A., *Fellow*, *Royal Gold Medalist*, and having paid a tribute of respect and admiration to the rare gifts and distinguished attainments of the late Fellow, the Hon. Secretary moved, and it was unanimously

**Resolved**, That a letter be sent from the Institute expressing the deepest sympathy of members with the relatives of Mr. Rodley in the loss they had sustained of one so highly gifted and so highly esteemed, and expressing at the same time their sincere appreciation of the many eminent services he had rendered to the world of art throughout a long and distinguished career.

The following members attending for the first time since their election were formally admitted by the President—viz.: Paul Ogden, *Fellow*, President of the Manchester Society of Architects; and John Nixon Horsfield, jun., *Associate*.

The Secretary announced the results of the Statutory Examination of Candidates for Certificates of Competency for the Office of District Surveyor in London.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election. As **FELLOWS** (51): James Pearson Allison (Hawick, N.B.); David Andrew, jun. (Glasgow); Charles Robert Ashbee, M.A. Cantab.; Henry Victor Ashley; Herbert Aspinall (Liverpool); Henry Gielg Badenoch (Newcastle-on-Tyne); James Thomas Ballie (Edinburgh); Edward Boehmer; John M. Bowie (Dunfriess); James Bruce (Newcastle-on-Tyne); Walter Ashbridge Chambers (Bombay); Arthur Stansfield Dixon, M.A. Oxon (Birmingham); Alfred John Dunn (*Pugin Student* 1895, A. 1895) (Birmingham); Horace Cowley Nesham Farquharson; Herbert Laurence Fadden; Robert Joseph Haddon (Melbourne); John Hall (Sunderland); Richard Hall (Bangor); Ralton Gardner Hammond; Ewen Harper (Birmingham); Nathaniel William Harrison (Oxford); James Henderson (Alberta, Canada); James Hino (Perth, W. Australia); Albert Howell; Robert Henry Kerr; George Arthur Lansdown; Alexander Colbourne Little (Hong Kong); Thomas John Melton (Dublin); Robert Heath Mew; Robert Cunningham Murray; Herbert Luck North, B.A. Cantab. (A. 1905) (Manfairfehan); Arthur Henry Ough, Assoc. M.Inst.C.E. (A. 1892) (Hong Kong); Henry William Hetherington Palmer; Thomas Tolmie Paterson (Edinburgh); Frank

Barry Pesceock (Birmingham); Lennox Robertson (Cardiff); Charles Collas Robin; Frank Hearn Shaylor (Shrewsbury); Godfrey Daniel Bower Shepherd (Dunlee); Frank Edward Snee; John Arthur Smith (Basingstoke, Hants); Charles F. Stevens (Bombay); Francis John Sturdy (A. 1882); Herbert Lionel Thoruely (Plymouth); Edward Finemore Titley (Birmingham); Philip John Turner (A. 1901) (Stowmarket); Arthur Frederik Usher; Andrew Vassallo (Malta); Horace Mageniss Wakley; William Charles Waymouth (A. 1895); George Wilson (Edinburgh). As **ASSOCIATES** (33), all the candidates having passed the Qualifying Examination held June-July 1907: Frederick Noel Bamford (*Probationer* 1901, *Student* 1904) (Auckland, New Zealand); Harold Percy Brentnall (*Special Examination*); Henry Charles Brown (*Special Examination*); Duncan Walter Clark (*Probationer* 1902, *Student* 1904); Charles Emerson Clouting (*Probationer* 1900, *Student* 1903); Frederick Edwin Collington (*Probationer* 1898, *Student* 1905) (Nottingham); Lawrence Stanley Croable (*Probationer* 1895, *Student* 1903); Leonard William Edmonds (*Probationer* 1903, *Student* 1905); George Hartley Goldsmith (*Probationer* 1900, *Student* 1905) (Manchester); Alfred Hill (*Probationer* 1902, *Student* 1903) (Huddersfield); William David Jenkins, F.S.I. (*Special Examination*) (Llandilo, South Wales); Arthur William Kenyon (*Probationer* 1901, *Student* 1905); George Eslemont Gordon Leith (*Probationer* 1905, *Student* 1906); Percy Wells Lovell (*Probationer* 1900, *Student* 1902); Walter Goldsaw Maffat (*Special Examination*) (Alexandria, Egypt); Spencer Harris Joseph March (*Probationer* 1900, *Student* 1903); Bruce William Oliver (*Probationer* 1902, *Student* 1904) (Barnstaple); Harry Phibbs (*Special Examination*) (Shrewsbury); Louis Augustus Phillips (*Probationer* 1896, *Student* 1905) (Newport, Mon.); Henry Arthur Porter (*Probationer* 1900, *Student* 1904); John Clifford Procter (*Probationer* 1899, *Student* 1903) (Barnhydding, Yorks); Archibald Hurley Robinson (*Probationer* 1901, *Student* 1903) (Birmingham); Edgar John Scaife (*Probationer* 1905, *Student* 1905) (Bolton); Herbert Marshall Spence (*Probationer* 1902, *Student* 1904); William Stockdale (*Probationer* 1900, *Student* 1903) (North Shields); Robert John Tall (*Probationer* 1900, *Student* 1904); Arthur Tedman (*Probationer* 1898, *Student* 1900) (Bristol); Alfred Deunis Thacker (*Special Examination*) (Birmingham, Walsall); Bernard David Tracey (*Probationer* 1890, *Student* 1901); William Whitehead (*Probationer* 1903, *Student* 1905) (Leeds); Arthur Reginald Widdowson (*Probationer* 1903, *Student* 1905) (Leicester); Leslie Wilkinson (*Probationer* 1901, *Student* 1903); Samuel Arthur Spoare Yew (*Probationer* 1903, *Student* 1904).

The President having delivered the **OPENING ADDRESS** of the Session, a vote of thanks, moved by Mr. John Slater [F.], seconded by Mr. Leonard Stokes, *Vice-President*, and supported by Professor Berestard Pitt [F.] and H. V. Lancashire [F.], was passed by acclamation, and briefly responded to by the President.

The proceedings then closed, and the meeting terminated at 9.45 p.m.

**Erratum.**—Index to Vol. XIV, p. vii, col. 3, lines 4 and 5 for Thomas Davison read T. Ruffin Davison as the author of the article "The Development of London."



ST. PAUL'S, FROM THE RIVER OF ST. BARTHOLOMEW'S HOSPITAL.

## THE PRESENT CONDITION OF ST. PAUL'S CATHEDRAL.

By MERVYN MACARTNEY [*F.*], Surveyor of the Fabric.

Read before the Royal Institute of British Architects, Monday, 18th November 1907.

**M**Y position to-night is not without its embarrassments. "The present condition of St. Paul's Cathedral," of which I am to tell you, is a subject which has of late been much canvassed, and one which I myself have examined from several points of view. But the occasions when I may becomingly break the silence which, as Surveyor of the Fabric, I have to maintain are few; indeed, I might say that a gathering of architects, meeting under the auspices of the Institute, is the only exception which I could make.

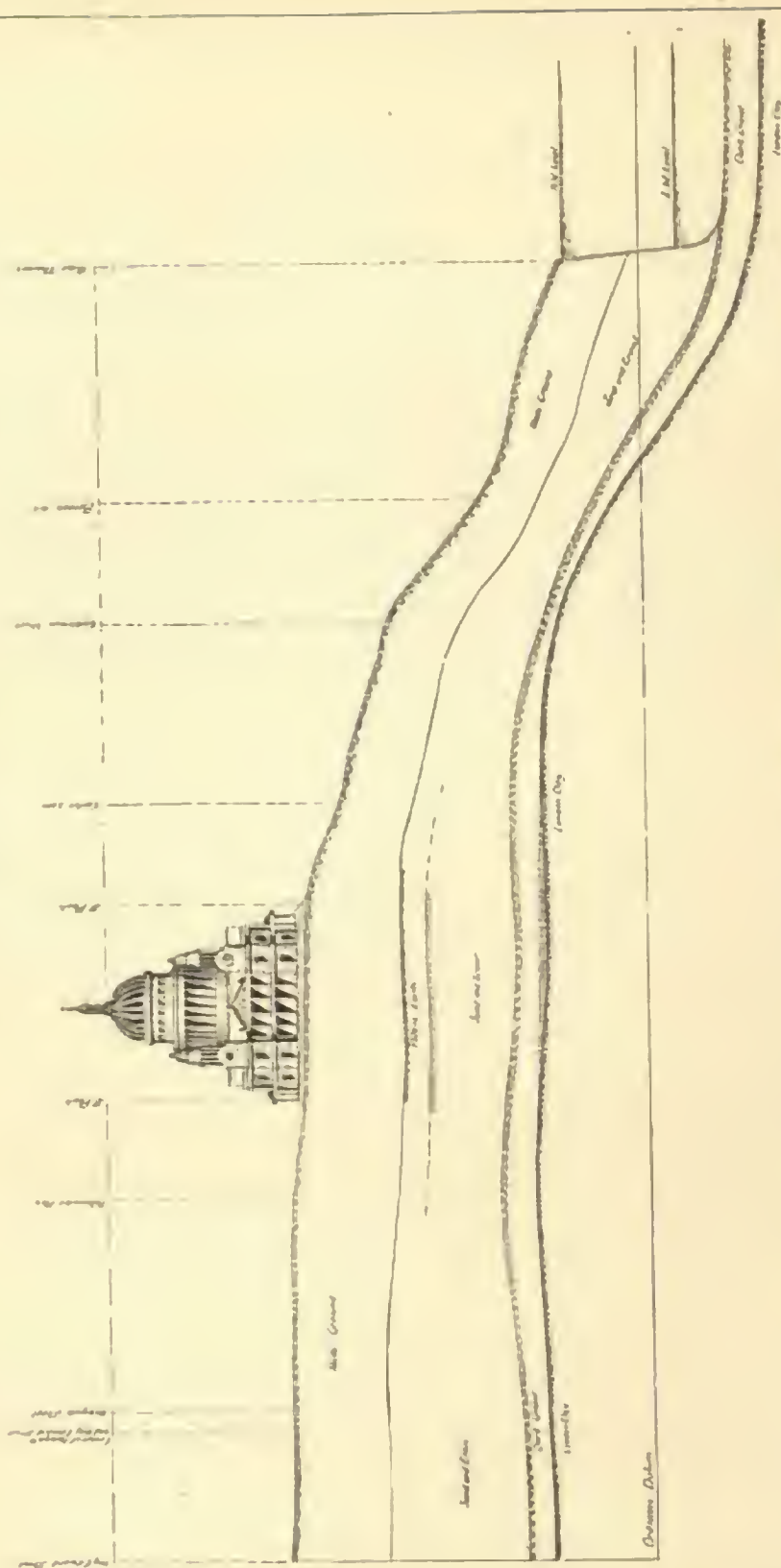
If I am to interest you in the present state of the Cathedral, I must of necessity take you back with me to survey briefly the conditions under which it was built, and the conditions in which it survives to-day. This is a matter which has been very thoroughly investigated by the Committee appointed by the Dean and Chapter, whose Report, published two months ago, is probably familiar to all. As one of the signatories of that Report, and speaking in the presence of those architects who share with me the responsibility for its production, you will understand that I am not here to offer criticism on it or to defend it. I shall take it as "the latest word" on the subject we are considering, and, without in any way impugning its completeness, I may be able, by interleaving it and by expanding some of its clauses, to follow a little further some of the subjects it suggests, but which in the Report a need for conciseness has curtailed.

The Committee open their Report with a rehearsal of the terms of their appointment, viz. to examine and report upon:—

(1) The stability of the whole structure of the Cathedral.

ST PAUL'S CATHEDRAL.

Approximations are  
Vertical, 1 inch = 20 feet  
Horizontal, 1 inch = 20 feet



Moore, Darryl and Leslie, Engineer.

- (2) The extent to which the stability has been, or is likely to be, affected by any alterations or disturbances in the foundations of the Cathedral, or in the soil in its neighbourhood.
- (3) The measures which ought to be taken to remedy such defects or guard against such dangers as may be discovered.

May I, then, say something of the circumstances by which those terms were dictated?

Mr. Somers Clarke, who succeeded Mr. Penrose as Surveyor of the Fabric, had recently resigned his position. During the nine years he held it he had done something towards a survey of the building, by observation, by photography, and by delicately adjusted apparatus, with a view to discovering its stability amid modern conditions.

The results of his inquiries, given to the Dean and Chapter in his Annual Reports, were sufficient to convince them that there were weaknesses in the structure which the continued invasion of the subsoil on all sides might speedily endanger. Of one such inroad the authorities had become aware shortly before my appointment a year ago. I refer, of course, to the low-level sewer proposed along the south side of the Churchyard. This, in the light of what they had been learning from their Surveyor, they not unnaturally viewed with alarm, and the opportunity seemed a good one to inquire, not only into the probable effect on the Cathedral, but into the general condition of the fabric itself—to take stock, so to speak, and to obtain the best procurable advice.

It was decided, therefore, on 6th December last that such advice should be sought, and certain architects were invited to act with myself in the matter, the choice falling, as you know, on the President (Mr. Colcutt), Sir Aston Webb, and Mr. Belcher, who readily consented to devote their time and abilities to so serious a task.

While setting to work systematically on the history of the Cathedral's building and the question of its soundness, we had to bear in mind the very pressing danger, as we thought it, of the London County Council sewer, and as soon as our researches had been carried far enough an Interim Report was drawn up and presented to the Chapter. The need of haste in this matter is, I think, amply proved by the fact that on 12th March we learned that the contract for constructing the sewer was let and £100,000 worth of plant and material ordered. Four days afterwards our Report was signed.

After referring to the weak places in the Cathedral, among them the south-west tower, we said:

"That while it was contended by very eminent engineers that if the sewer were constructed in the clay with a shield and protected by proper precautions no harm could come to the Cathedral, we, on the other hand, felt compelled to come to a different conclusion.

"Bearing in mind the difficulty, if not impossibility, of complete and adequate supervision of a work of this character, and the disturbance that had undoubtedly been caused to surrounding buildings by similar works in London, we were of opinion that the construction of such a sewer so near St. Paul's, taking into consideration the sensitive condition of the structure, would very possibly become a serious danger to the Cathedral fabric, and should therefore be opposed by the authorities by every means in their power in order to secure another route for that sewer which would be free from any possible risk to the building."

What followed is well known to you in the words of the Report. We were gratified to learn that this Report was adopted, and that the London County Council, after due consideration, had agreed upon another route. By this decision we were of opinion that great danger to the Cathedral had been averted.\*

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\* The new route follows Upper Thames Street.

I have expanded this reference to the Interim Report and quoted from it because it explains the immediate reason of the Committee's appointment, and also because without it a casual reader might think that the question of the sewer had been ignored or insufficiently mooted. The Report proceeds:—

"During the course of our inquiries we have had access to documents containing much matter of interest of which we have been glad to avail ourselves. We gather from these and from other sources that the nature of the subsoil on which the present Cathedral is built was from the first a matter of the gravest concern, and that Sir Christopher Wren was much impressed by the seriousness of the problem of obtaining suitable foundations for his church."

It would take too long to discuss or quote at length from all the documents here referred to; a large amount of information was gathered and brought before us, records in the Cathedral and other libraries were searched, Wren's own drawings and methods carefully examined and considered.

Anything of the nature of an historical account of the inception of Wren's Cathedral—except so far as it bore directly on the question at stake—has been avoided in the Report; but before I go further I may be allowed to remind you of some of the more important facts. Sir Christopher Wren first comes on our scene in the days of Old St. Paul's, which stood in 1660, saving the loss of its spire and the addition of Jones's portico, pretty much as it had for nearly three centuries. Wren designed to remodel the central feature, replacing the tower by a dome surmounted by a lofty cupola, and ingeniously masking the Norman nave both within and without with a veneer of approved classic ornament agreeable with the prevailing taste. Some drawings in the Library of All Souls' College, Oxford, afford us an idea of this. They bear date 1666, and there can be no doubt that they represent the scheme which was in contemplation just before the Fire of London.

The great catastrophe was followed by a period of chaos, at St. Paul's as elsewhere, from which order was but slowly evolved.

Properly enough, and quite in the spirit of the olden Churchmen, it was at once resolved to make temporary provision for the Cathedral services. In the words of Dagdale, "The first thing designed after this deplorable fire was to fit some part of the Church for a quire, to which end it was resolved that part of the body of it, towards the west end, might be made useful for that purpose, in which work no less than two years were spent. Towards the latter end of 1668, it was concluded that the foundations [*i.e.* the remaining walls] of the Old Cathedral thus made ruinous should be totally cleared; and preparation of material and all things needful made ready conducing to a new fabrick, which work continued until the last of April 1674," at a cost of nearly £11,000.

Meanwhile Wren had been commissioned to build the new church, and more than one design, to say nothing of minor variations, was prepared and abandoned. Letters patent for what is known as the "Model" design [fig. 2] and Wren's favourite were granted in November 1673, and when this was rejected by the ecclesiastics on the score of an unsuitable ground plan, another scheme was projected. Some drawings with the warrant for the rebuilding and sealed with the King's Privy Seal are also at All Souls; and though this is called "the approved design," the Royal approval seems to have had little real effect.

This was followed by the design which finally triumphed, in the foundations of which Wren exercised so great care. In his endeavour to "build for eternity," by deflecting the axis of the church slightly to the north-east [fig. 3], he skilfully avoided the foundations of the former church, which he decided not to use, "fearing the old and new would not stand together without cracks." To this all-sufficient reason may be added two others of some weight. In the first place the Act of Parliament for the rebuilding of the city laid down



FIG. 2.—WREN'S "MODEL" DESIGN. FROM THE MODEL PRESERVED IN ST. PAUL'S.

forty feet as the width of the main streets—of which that on the south of the church was one—while on the north side was the Churchyard and greater freedom. And by adopting this course Wren was released from the strict lines of the mediæval plan and found room for the foundations of the great dome which he had all along intended as the central feature of the Cathedral.

He therefore rejected the old footings and turned his attention to providing new ones. Here I may quote at length the passage in *Parentalia*, from which only extracts are given in the Report :

"The Surveyor observed that the foundation of the old church stood upon a layer of very close and hard pot-earth, and concluded that the same ground which had borne so weighty a building might reasonably be trusted again. However, he had the curiosity to search further, and accordingly dug wells in several places, and discovered the hard pot-earth to be on the north side of the Churchyard, about six foot thick and more, but thinner and thinner toward the south, till it was upon the declining of the hill scarce four feet.

"Still he searched lower, and found nothing but dry sand, mixed sometimes unequally but loose, so that it would run through the fingers. He went on till he came to water and sand mixed with periwinkles and other sea-shells ; \* these were about the level of low-water mark. He continued boring till he came to hard beach, and still under that till he came to

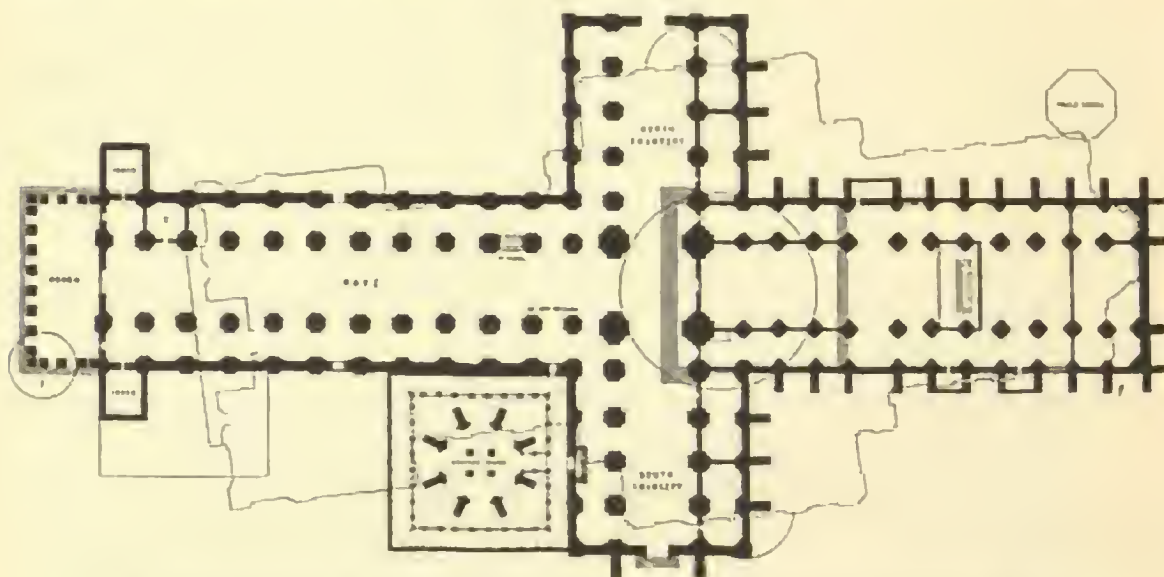


FIG. 1.—GROUNDED PLAN OF OLD ST. PAUL'S, SHOWING IN OUTLINE THE CHANGE OF AXIS IN THE PRESENT CATHEDRAL.

the natural hard clay which lies under the City, and country and Thames also, far and wide. . . . In the progress of the work of the foundation the Surveyor met with one unexpected difficulty : he began to lay the foundation from the west end, and had proceeded successfully through the dome to the east end, where the brick-earth bottom was yet very good ; but as he went on to the north-east corner, which was the last, and when nothing was expected to interrupt, he fell, in prosecuting the design, upon a pit where all the pot-earth had been robbed by the potters of old time. . . . It was no little perplexity to fall into this pit at last ; he wanted but six or seven feet to complete the design, and this fell in the very angle north-east, he knowing very well that under the layer of pot-earth there was no other good ground to be found till he came to the low-water mark of the Thames at least forty feet lower. His artificers proposed to him to pile, which he refused. . . . He therefore sank a pit of about eighteen feet square, wharfing up the sand with timber till he came forty feet

\* Freshwater univalves really.

lower, with water and sea-shells, where there was a firm sea-beach. . . . He bored through the beach till he came to the original clay; being then satisfied, he began from the beach a square pier of solid good masonry, ten feet square, till he came within fifteen feet of the present ground; then he turned a short arch underground to the former foundations which were broken off by the untoward accident of the pilt. Thus this north-east coin of the quire stands very firm, and, no doubt, will stand."

In carrying on the work "the greatest care and industry was used, so that by the beginning of April anno 1685 the walls of the quire with the side isles thereto containing one hundred and seventy feet and in breadth one hundred and twenty foot, with the great arched vaults underneath, were finished. As also two stately porticoes North and South opposite to each other and the huge and massive pillars of the Dome (which is one hundred and eight foot in diameter within the walls) brought to the same height, the work being totally wrought of large Portland stone." \*

The west end of the old church was not entirely taken down until 1686.

Contracts for timber for covering the aisles of the new choir were signed in June 1688, but it was not until 2nd December 1697 that the choir was formally dedicated, the occasion being the thanksgiving for the Peace of Ryswick. The morning-prayer chapel, the present St. Dunstan's Chapel, was completed in 1698-99, which would seem to imply that the work at the west end was then nearly finished. The topmost stone of the dome was laid in 1710, the date usually taken as marking the completion of the building, though much work was still going on within and without, and much was left undone.

But before this date, in December 1709, an entry in the Cathedral pay-book records "work done in repairing flaws occasioned by y<sup>e</sup> pressure, making good such stones as could be left remaining with lead and plaister being the eight Leggs of the Dome and in the inside of the East, W., N., and South cross being above 1,500 foot in periphery." This repairing continues in the two months following. Similar entries are found during the first six months of 1716, where one of the legs of the dome is mentioned as having been repaired with "42 tun of Portland stone," and again in 1722, when repairs to the south-east leg of the dome are specified. One of Wren's original drawings in the Cathedral library is a quarter-plan of the dome area on which the great south-east pier is noted as "the peer which has been repaired" [fig. 4], and the work was done by Edward Strong, who succeeded his father and uncle as clerk of works. From Clutterbuck's *History of Hertfordshire* we learn of Edward Strong that he "also repaired all the blemishes and fractures in the several legs and arches of the Dome, occasioned by the great weight of the said Dome pressing upon the foundations; the earth under the same being of an unequal temper, the loamy part thereof gave more way to the great weights than that which was gravel, so that the south-west quarter of the Dome and the six smaller legs of the other quarter of the Dome, having less superficies, sunk into the thinner part of the loamy ground, an inch in some places, in others two inches, and in othes places something more; and the other quarters of the Dome being on the thicker part of the loamy ground and gravel, it did not give so much way to the great weight as the other did, which occasioned the fractures and blemishes in the several arches and legs of the Dome."

From the date of the completion of the shell of the building we have no evidence of any anxiety for the building's safety for over a century. The pay-books record nothing beyond the ordinary repairs; the disputes about the balustrade above the cornice and as to the position and height of the inclosing rails waxed and waned, and not until 1831 is any note of alarm sounded.

\* Ellis's edition of Dugdale, page 140.

At that time there was much constructing and remaking of sewers in the metropolis, and one was schemed to go round the south side of the church from Ludgate Hill to Cannon Street.

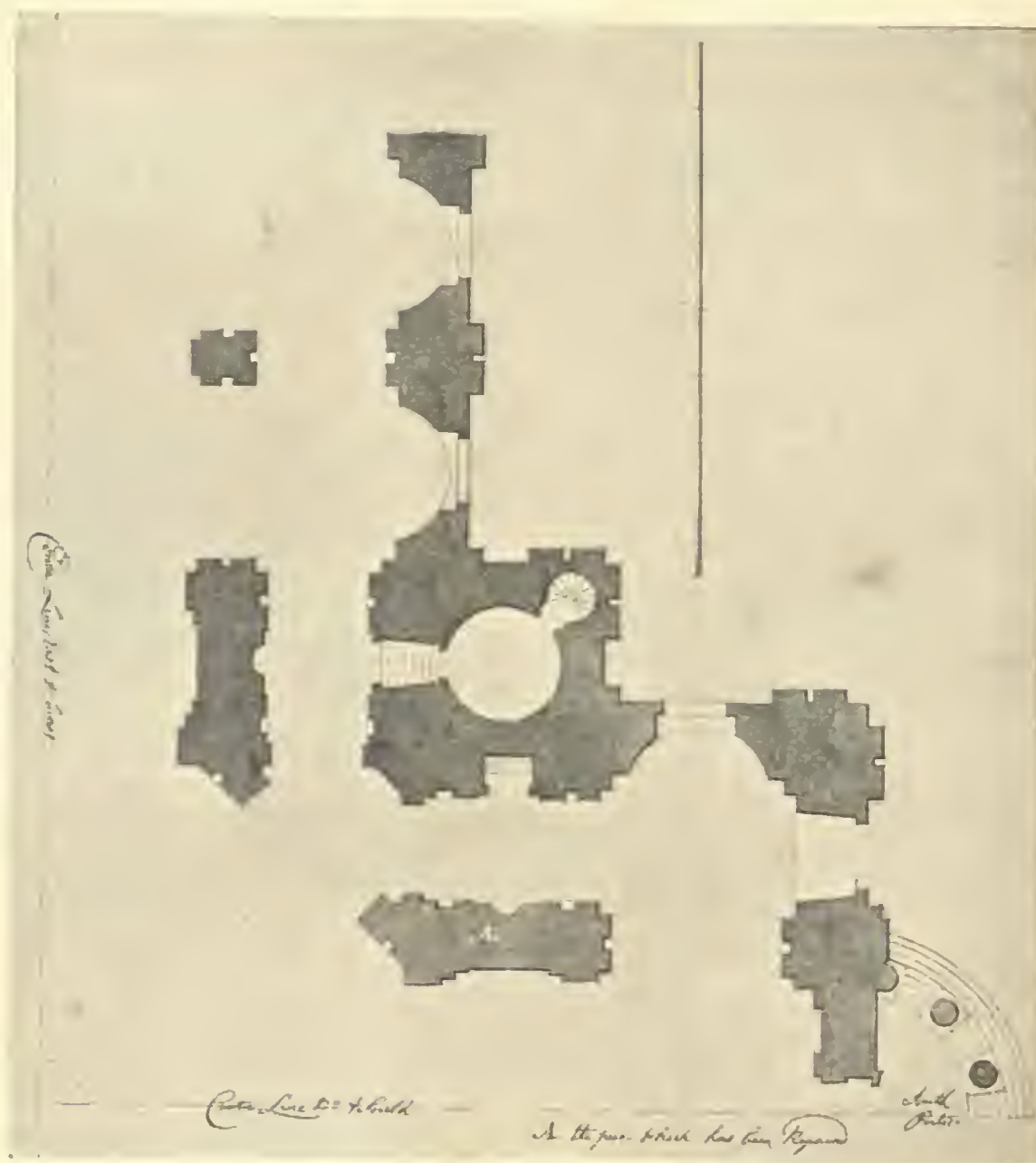
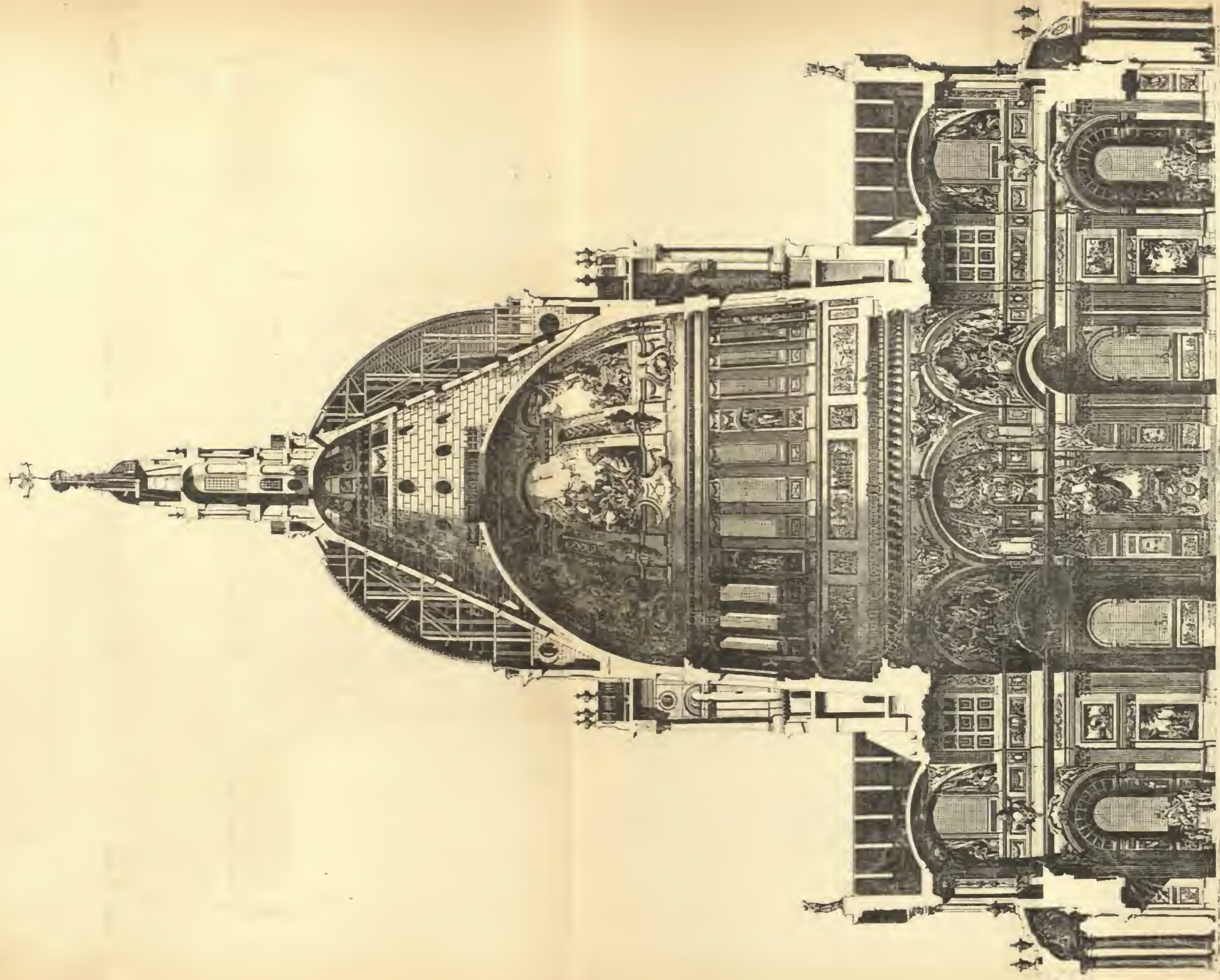


FIG. 4.—FROM THE ORIGINAL DRAWING BY SIR CHRISTOPHER WREN, IN THE LIBRARY OF ST. PAUL'S.

Mr. Cockerell, the Cathedral Surveyor, drew the attention of the authorities to the danger, and, together with Messrs. Robert Smirke and George Bennie, drew up the Report, which we put in in full.



To his Royal Highness  
The SECTION of St. Paul's Cathedral presented (approximately)  
with all hands by respected Architects, Richard Bird, and  
George Bouverie of Hales.

to the original INTENTION of St. Christopher Wren  
as proposed and revised by Robert Hume, Esq.

NEW YORK 1847



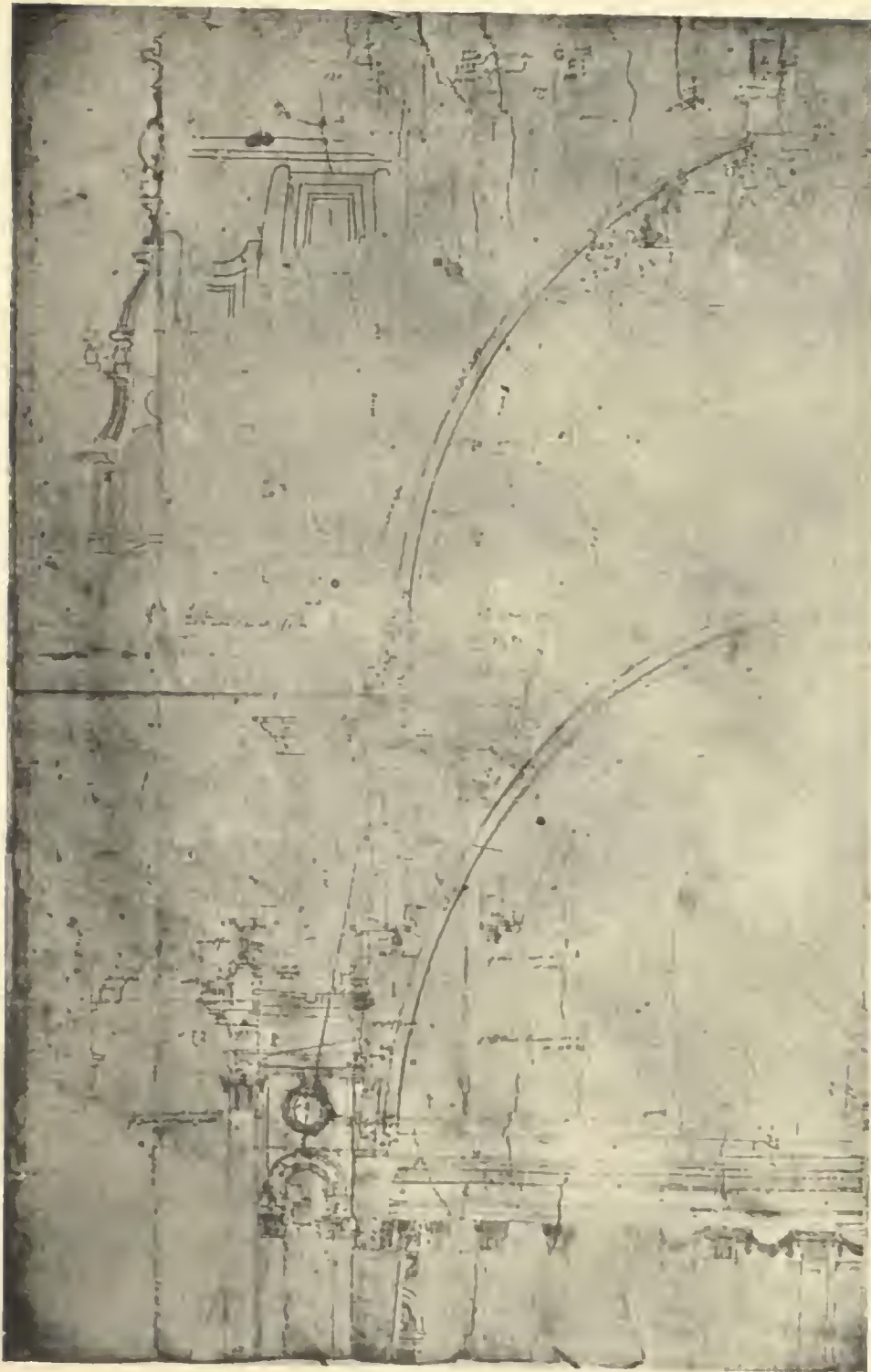


FIG. 2.—FROM THE ORIGINAL DRAWING BY MR CHRISTOPHER WREN, IN THE LIBRARY OF ST. PAUL'S.

"We, the undersigned, having by direction of the Dean and Chapter of St. Paul's Cathedral examined and considered the situation in which the Commissioners of the Sewers have begun to construct a sewer on the south side of the Cathedral, and considering that the footings of the walls rest chiefly upon a thin bed of pot-earth, beneath which is a very deep stratum of sand and gravel containing a considerable quantity of water, and that the walls of the south transept have sunk and are fractured, apparently by reason of some partial weakness in this part of the foundations, are of opinion that the security of the fabric will be endangered if the sewer is constructed in the Churchyard.

"We are likewise of opinion that, however carefully the work may be constructed, it will be impossible to prevent some degree of motion from taking place in the said stratum of sand and gravel either during the construction of the sewer or at a future period in consequence of it; and we therefore earnestly recommend that the Commissioners should be requested to abandon this line for their sewage, and remove it to such a distance as will prevent all risk of injury to the perfect security of the Cathedral."

The circumstances were in some respects parallel with those of our day, and the correspondence which passed between the early Committee leaves no doubt in the mind that they felt very seriously the danger, and took especial pains to use no ambiguous phrases in wording their protest.

— Wintershall: 27th August 1831.

"MY DEAR ROBERT,—I found your letters of the 22nd and 25th on my arrival here from Plymouth and Portsmouth, &c., last night, and although I have not considered the question of the sewer and St. Paul's foundations about to be propounded to me, I think you were quite justified in protesting against the making of the said sewer so near as 50 feet from the foundations of St. Paul's. From repeated experiments with a klinometer, that is, an instrument for ascertaining the slopes or angles of equilibrium at which earth, sand, &c., stand, I have found that the average angle of dry sand is 44 degrees; of moist sand is 35 degrees; of quicksand is 10 degrees; so that, taking dry sand and the slope at a horizontal distance of 50 feet, and vertical depth of 25, the slope would extend to the sewer, and in moist and wet sand would enter at 35 degrees, or nearly 3 to 1; 10 degrees, or nearly 12 to 1; that is, far beyond the centre of the sewer, and of course dangerous to the stability of St. Paul's. This is what I should call the scientific way of viewing the question, although that word is (I am sorry to say) dreadfully abused at times. But I shall be in town on Monday at 6 o'clock; I will either see you on that night or on Tuesday morning. . . .—Believe me to remain very truly yours,

"GEORGE RENNIE.

"C. R. COCKERELL Esq."

"Friday morning.

"MY DEAR COCKERELL,—I send a sketch of the sort of Report which I should prefer signing with you and Rennie. And I think you will both agree with me that, whatever modification this may require, it is at least indispensable that our opinion should be expressed in a clearer and more decided manner than in that proposed by Acton. I cannot think it sufficient to say no more than 'there is a possibility' that 'some degree of motion might take place now or at some remote period,' &c. Nor can I understand what is meant by the opinion that this line of sewage 'however eligible in other respects,' for I know of none at all to make it eligible, and certainly none are stated in the Report. Nor would I propose that the sewer should be removed to 'such a distance from the fabric as will in the judgment' of the Commissioners, &c. . . . for it seems rather a laughable sort of compliment to say this after declaring that in our opinion they have had so little judgment.—Yours very truly,

"ROBERT SMIRKE."

The result was that the Commissioners of Sewers consented to divert the sewer along Carter Lane, where it was considered it would not in any way affect the foundations of the church. From this time onwards the series of Surveyors' Reports is fairly regular, though there are some years missing. The constant small repairs recommended for the fabric are almost all noted as due to the iron cramps used so largely and insufficiently imbedded in the stone, and frequently this phrase or a similar one occurs. In no case do they suggest any cause for anxiety for the condition of the structure in general. About 1850 some settlement appears to have been noted, but we may judge that it was slight, for in 1853 there were no further movements to record, and the use of a coloured cement in stopping the cracks in the masonry so as to facilitate recognition was postponed as of lesser importance than other work about the building, and was not completed until 1856. No further note of alarm as to the Cathedral's safety was sounded until the preparation of the Central London Railway Bill in 1890.

In November of that year Mr. Penrose reported as follows:—"During the late parliamentary session a matter arose which there was reason to apprehend might have seriously endangered the fabric, namely, the proposed Central London Railway, of which the proposed line was in a tunnel running the length of Newgate Street, at a depth of more than seventy feet below the floor of the church. As there is great probability that a tunnel so placed at a depth of more than seventy feet below the floor of the church would drain off the water from the lower strata of the gravel and sand which underlie the foundations of the Cathedral, and so cause them, to some extent, to collapse, there would be great risk of serious injury to the structure. This scheme passed a Committee of the House of Commons, but was thrown out by the Committee of the other House, not indeed without cost to the Dean and Chapter, but it appears to be a great danger averted."

In his evidence supporting the petition lodged by the Dean and Chapter against the Bill, Mr. Penrose said:—"The danger to the structure of St. Paul's Cathedral if the proposed works are carried out exists chiefly on account of the sandy nature of the strata upon which the foundations stand. These foundations are laid on a comparatively thin bed of marl, below which there exists more than forty feet of loose sand and gravel. It must also be remembered that St. Paul's Cathedral is erected on the top of a considerable hill. If the water which is mixed with these strata was withdrawn, the result might, in my opinion, be exceedingly serious, as this must cause a very considerable collapse in the strata itself . . . in the excavations which must take place for the purpose of the proposed railway tunnel, and more especially in the large excavation which would be required for the intended station between Newgate Street and the Cathedral, at the depth proposed, which is some sixty feet below the present surface, there would be very great risk of interfering with these strata, and if this excavation should, as in all probability it must, take place irregularly over the section of the works within the immediate proximity of St. Paul's, the danger would be very considerably increased."

This brings us down to comparatively recent history, and it may be convenient at this point to proceed on a rather different method.

The main points of weakness in the Cathedral—the parts, that is to say, which have shown, and on the slightest disturbance will show again, signs of settlement and movement—are the dome, the south transept, and the western towers and portico.

*The Dome.*—This has been referred to earlier as having been repaired during the building, when the south-east pier sank owing to the inequality of the subsoil. In 1878 the dome was measured, and it was found that while there are signs of a very measurable amount of subsidence and disturbance of level having taken place in the structure, yet that



FIG. 6.—ST. PAUL'S. VIEW FROM THE NORTH-WEST.

Engraved from *Hughes's London Churches*, by kind permission of Mr. Hatfield.



FIG. 7.—ST. PAUL'S CATHEDRAL: PART OF SOUTH FRONT.  
Repared from Birch's *London Churches*, by kind permission of Mr. Hatfield.



FIG. 8.—ST. PAUL'S CATHEDRAL: THE NORTH TRANSEPT.  
Reproduced from Birch's *London Churches*, by kind permission of Mr. Hatfield.



FIG. 9.—ST. PAUL'S CATHEDRAL: THE BISHOP'S THRONE.  
Reduced from *Church's London Churches*, by kind permission of Mr. Batford.

a very large part of this had already occurred during the progress of the work, and that some of the courses of stone-work, especially those immediately above the dome cornice, are thinner considerably in one direction, so as to compensate for what had then occurred, and to bring the upper part of the structure again level. This shows that such movements as have more recently occurred are very much less in amount than they otherwise might be supposed to be. It was found in 1884 that this compensation occurs in the cupola itself.

The settlement of the dome shows that, in spite of the care with which Wren spread the weight, the centre of the great mass has sunk and is now severed from the surrounding masses.

The dome is carried on eight great piers about thirty feet long: these at the crypt are connected with the bastion-like masses at the angles of transepts with nave and choir by long barrel vaults: these are in every case cracked through. These bastions, were they solid, might easily have contributed to the sinking of the dome, but in fact they are admirably contrived for their purpose as counterweights, and being much hollowed for staircases, vestries, and the like.

The weight of the superstructure rests much more on the inner ends of these eight piers than on the outer ends, in spite of Wren's devices to distribute the weight, and the sinking of these piers has set up movements overhead. Moreover, these great piers have not sunk equally, those on the south side connecting with the south transept being lower than the others; and of these the westernmost has descended bodily over six inches.

This may be seen in a striking degree in the colonnade round the drum of the dome. These columns are in reality the outer ends of a series of arches set at right angles to the thrust of the base of the cone. These arches and the roundels above them are all more or less cracked, and the colonnade is practically severed from that part of the arch which abuts on the dome. The dislocation is sometimes very great. This downward tendency of the central mass of the dome may be illustrated further from the clerestory windows which adjoin it and from the triforium arches in the transepts. Between the south or end wall of the south transept and the pier which carries the dome, the great arch into the aisle and the clerestory wall above are broken through. In a less degree, according to the subsidence of the mass of the dome, this occurs in connection with each dome pier.

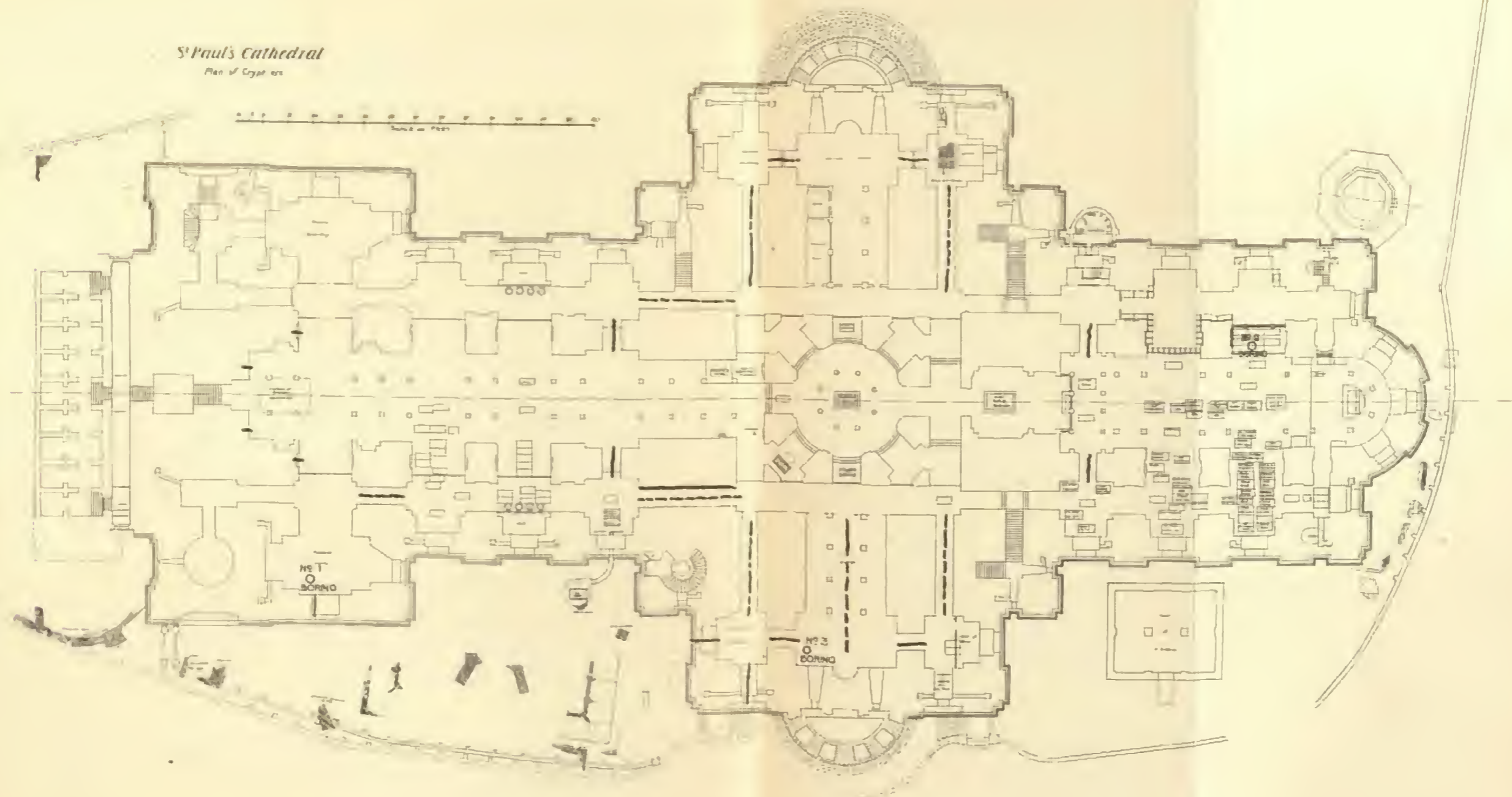
When the west window of the south transept was repaired in 1891 Mr. Penrose referred to it as having been much dislocated by a settlement of old standing, of which happily there seems to have been no recent recurrence.

The south transept has suffered, in addition to the dislocation of the parts abutting on the dome, by the tendency of the south front of it to move outwards.

The portico was much repaired in 1890, the stonework having suffered to a very great degree from the oxidation of the iron cramps; among other things the whole of the frieze was taken down piece by piece and replaced and in many places renewed.

The walls of the southern façade have moved outwards, and have sunk slightly to the east and west: this showed itself in the south window arch and in the upper part of the transept. In 1897 it was noted that the window arch was resting on and had actually bent the iron stanchions which were intended merely to stiffen the lead glazing, and that the glazing itself had been crumpled. To remedy this a steel frame for the window was inserted at the time when the new glass was put in, a similar precaution being adopted in the north transept, where the same had happened, though not so badly. Early in the last century strong iron rods had been inserted longitudinally below the window in the south transept, as well as in the direction of the dome, and these it was found necessary to augment in 1898, when additional tie-rods were inserted above the window and at the roof level, and anchored back into the

*St Paul's Cathedral*  
*Plan of Crypt etc.*



*The heavy dotted lines show position of settlement.*

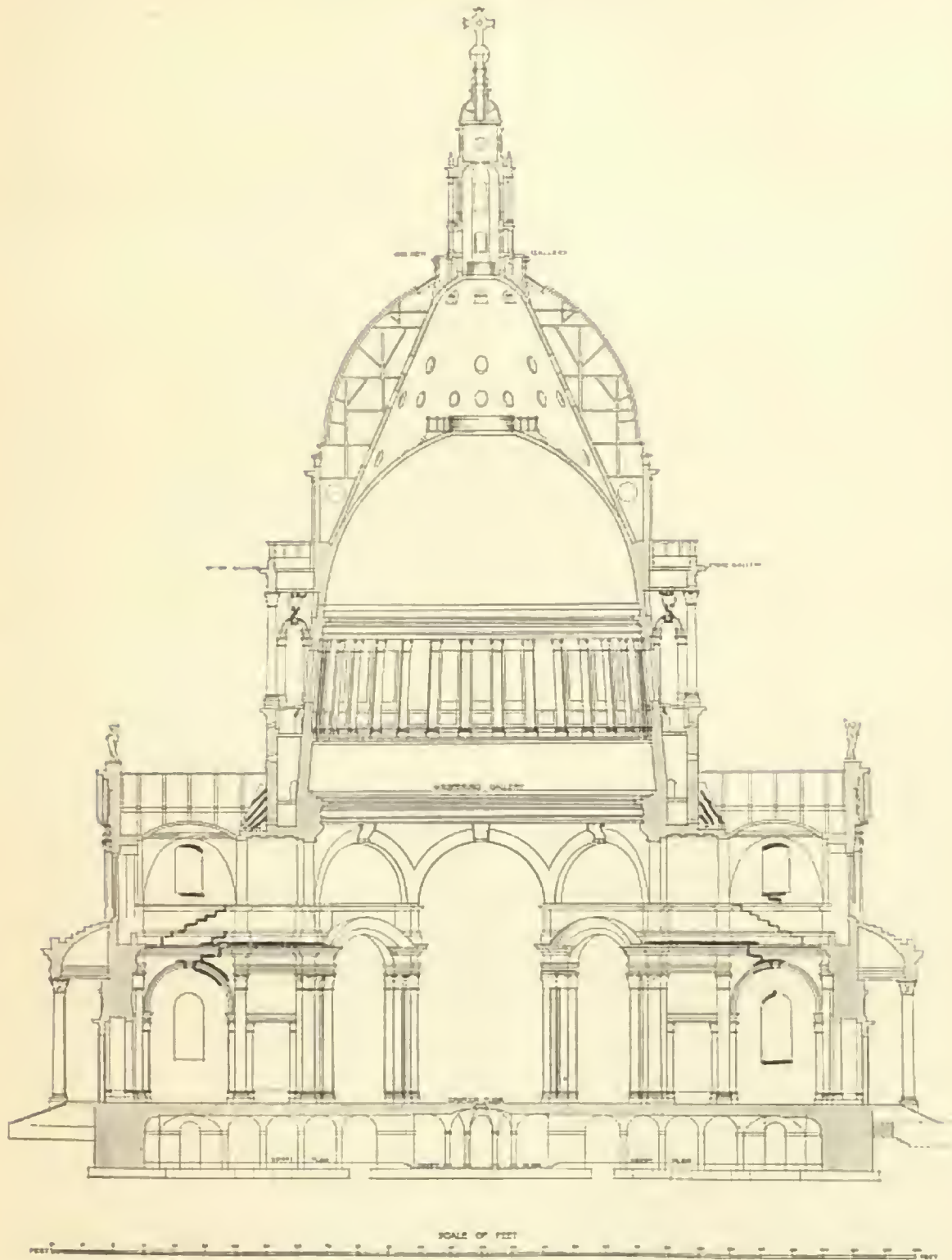
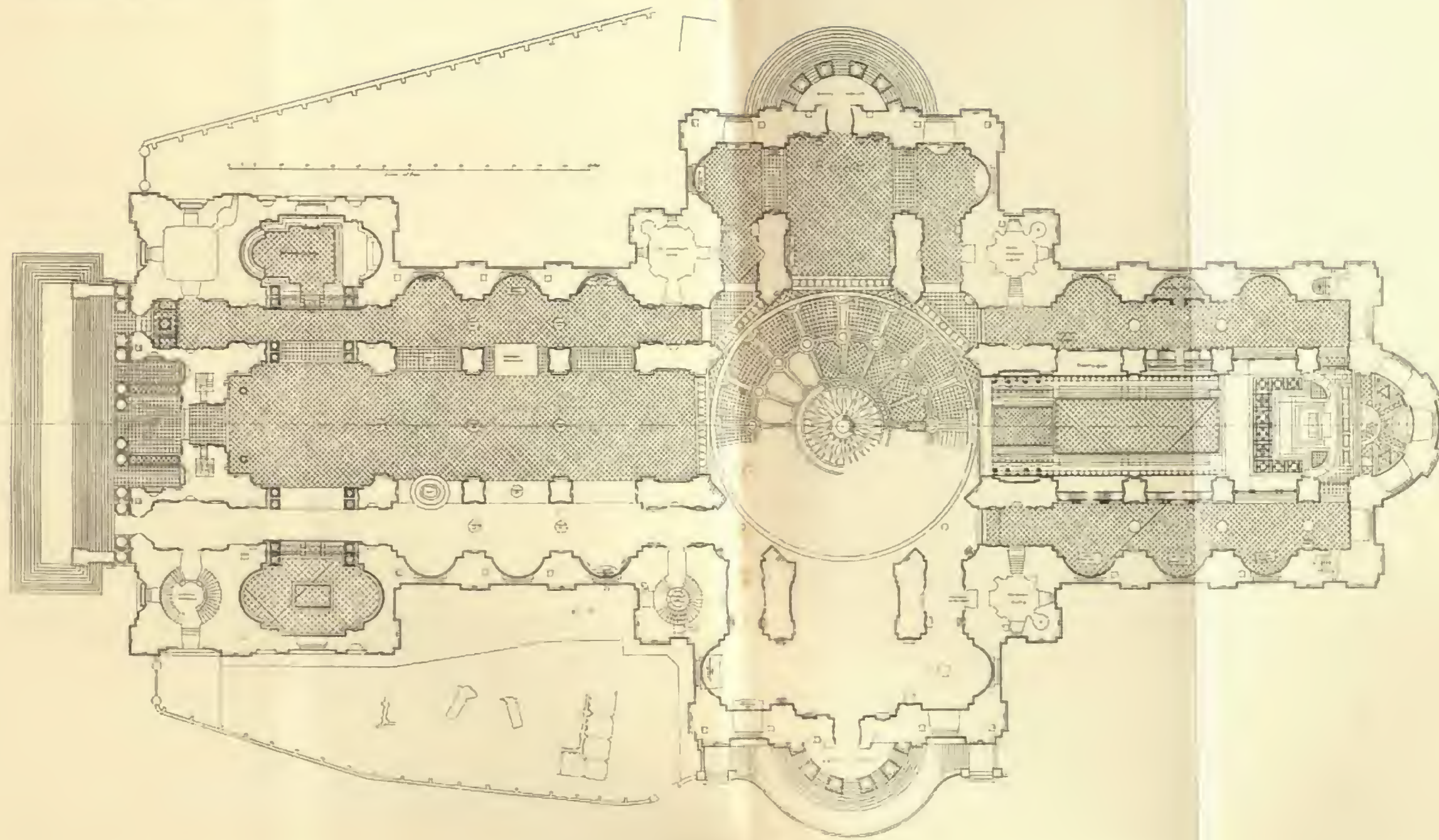


FIG. 10.—CROSS-SECTION THROUGH TRANSEPTS SHOWING CRACKS.

## St. Paul's Cathedral.

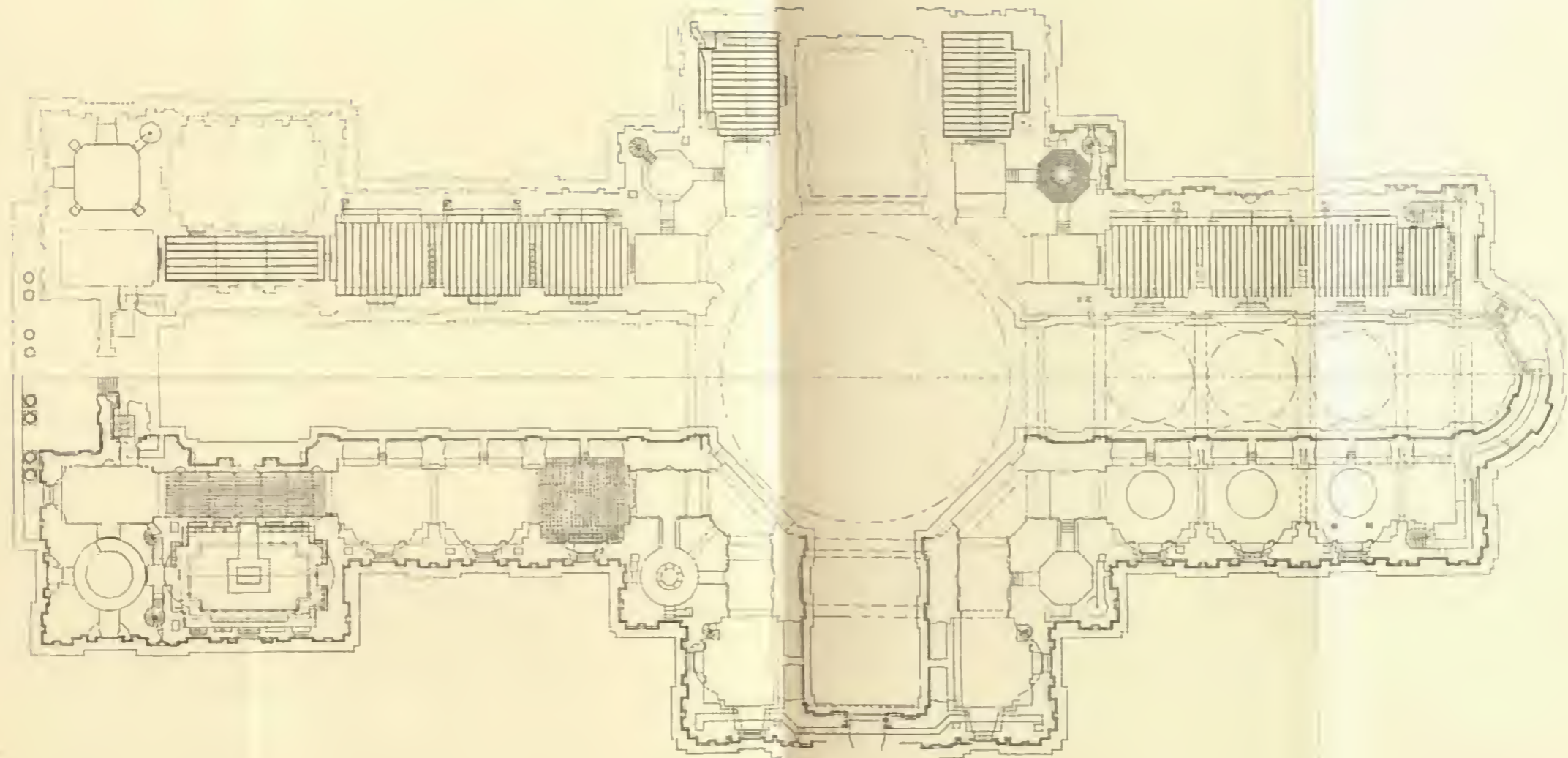
*Plan showing present arrangements and improvements,  
also the existing fragments of Old St. Paul's.*





*St. Paul's Cathedral.*

Plan showing the approaches to the Library, Trophy Room, Corridors, and Roofs over the Aisles.







of the stones forming the vault had sunk two inches, and at the crown of the vault the stones were nipped at the extrados instead of on the line of the intrados, as should be the case.

However, after very considerable repair and much renewal, the portico has been restored to its original state—allowing of course for the increase in its span—and, assuming that existing conditions can be maintained, may be said to be safe.

But we have learned the secret of its weakness while providing for its strength, and we see how dependent it is on the western towers, and how they in turn stand or fall by the maintenance unimpaired of the ground on which they were built.

How the ground is composed we may see from the section [fig. 1], particularly from the diagrams of the borings which were made in March last [Plate V.]. These show how the strata vary even in the length of the Cathedral, and that the water level drops two feet from the east end to the south of the south transept, and a few more inches in a westerly direction to the bore-hole east of the south-west tower. The average depth of the foundations is four feet six inches below the crypt floor, which is six feet below the ground level north and south, and the footings of the walls consist of three 12-inch courses of stone with a projection of about two feet.

In no case have these shown signs of insufficiency, nor has any organic weakness been discovered in the structure itself. Where the walls have been opened for one reason or another they have been found to be perfectly well constructed. For example, in 1889 a new staircase was made near the north-east corner from the crypt to the aisle above, and the Surveyor in his Report took occasion to remark on the extreme solidity and tenacity of the rubble core of the walling.

All observations tend to prove that the danger to the Cathedral comes from subterranean or atmospheric influences. Interference with the subsoil was clearly not contemplated by Wren, and without it we might even now reduce to a minimum the Cathedral's danger.

The action of rain and of the increasing plague of soot, smoke, and grime are of less importance, but in a building of the size of St. Paul's, with its long ranges of gutters, parapets, and cornices, they are by no means negligible.

Already the oxidisation of iron cramps has been referred to: these, wherever and whenever accessible, are replaced by copper. Where securely buried from the effects of the air the iron has been found to be as good as the day it was embedded, but near the surface it has caused much mischief. Mr. Penrose in 1888 noted the prevalence of this trouble in buildings of the period all over London, which had not till then suffered from it to any such degree before.

The smoke nuisance, though it has long been growing, is only recently become acute. The incrustations of soot and gypsum about some parts of the Cathedral are considerable, and are to be dealt with.

## THE DOME OF ST. PAUL'S. By WM. DUNN [F.].

SO much has been said and written on St. Paul's dome from the general point of view that I feel I could not hope to interest you by merely adding my own views on the construction adopted by Wren.

I might have attempted what I believe has not yet been done, a mathematical investigation showing the nature, amount, and distribution of the stresses with such accuracy as could be attained in so indeterminate a structure. That would be, I think, an interesting subject, and one of considerable value to the guardians of the Cathedral and to the public, but it is more suitable for a written communication which we can read and debate at leisure than for utterance on such an occasion as this. I therefore thought it better to make a short study of some details of construction which could be explained orally and by drawings, of sufficient importance and interest to justify me in bringing them before you, and which had either not been previously mentioned or else been very little discussed. Mr. Macartney very kindly supplied me with various drawings, and with the help of his assistant, Mr. Halley, I made sketches and measurements in parts undisturbed for years back, if we may judge from the dust. From the measurements taken, plans and sections were prepared, but I thought that the relations of the whole would be better displayed in an isometrical view such as foreign students have made of St. Peter's, of the Duomo at Florence, and other domes, but which no one has undertaken, so far as I know, for St. Paul's, with the result which I have the pleasure to put before you.

It is a peculiarity in domes that, while any load affects all parts of the structure below it, it has no effect on the stresses in the parts above it. Accordingly we may properly begin our description at the top, where we would begin an investigation of its strength.

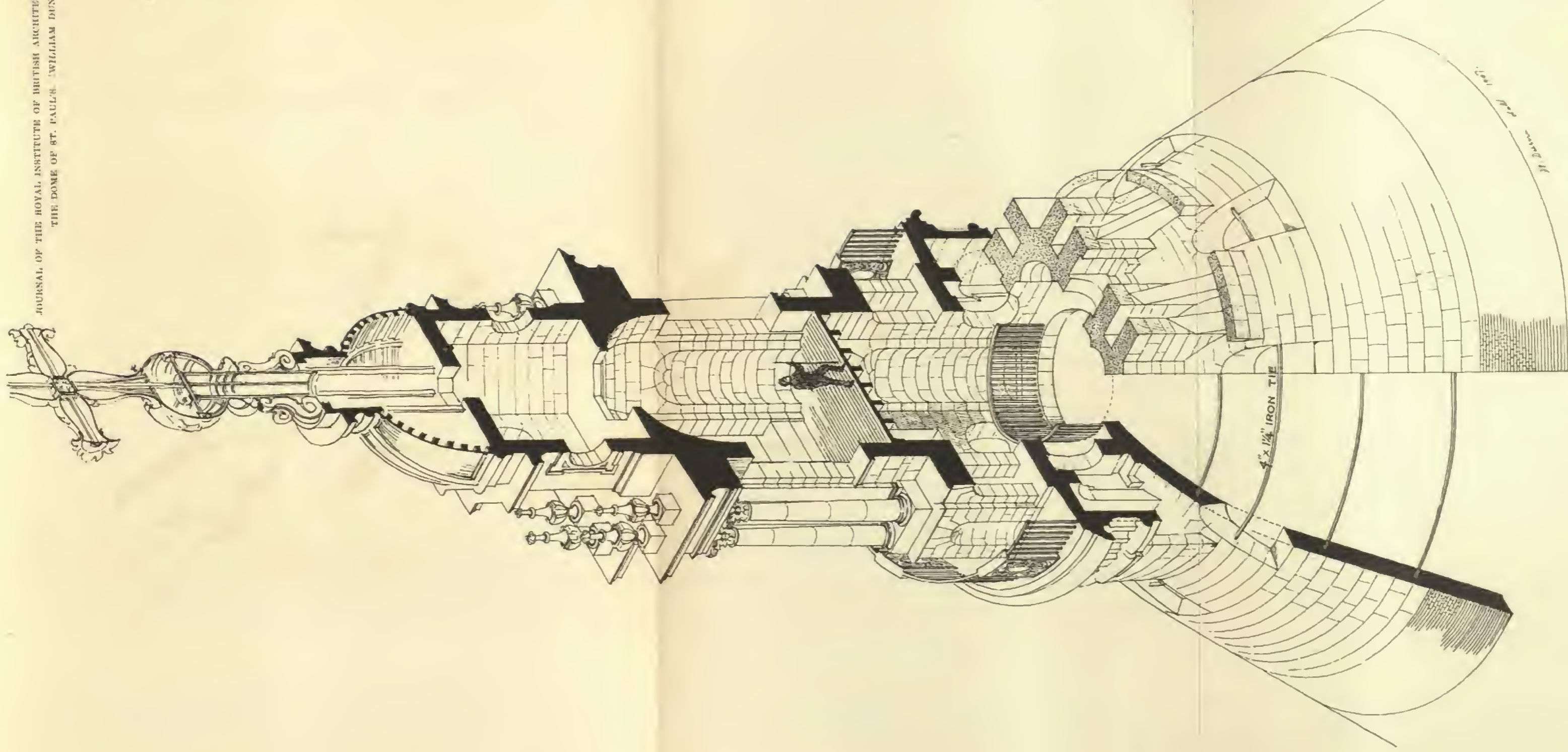
The lantern is a massive stone structure, the exterior rectangular in plan, about twenty feet over all, and about fifty feet high. The interior is an octagon shape, and the whole is surmounted by a small wooden dome on which is the ball and cross of sheet metal on very heavy wrought-iron frames.

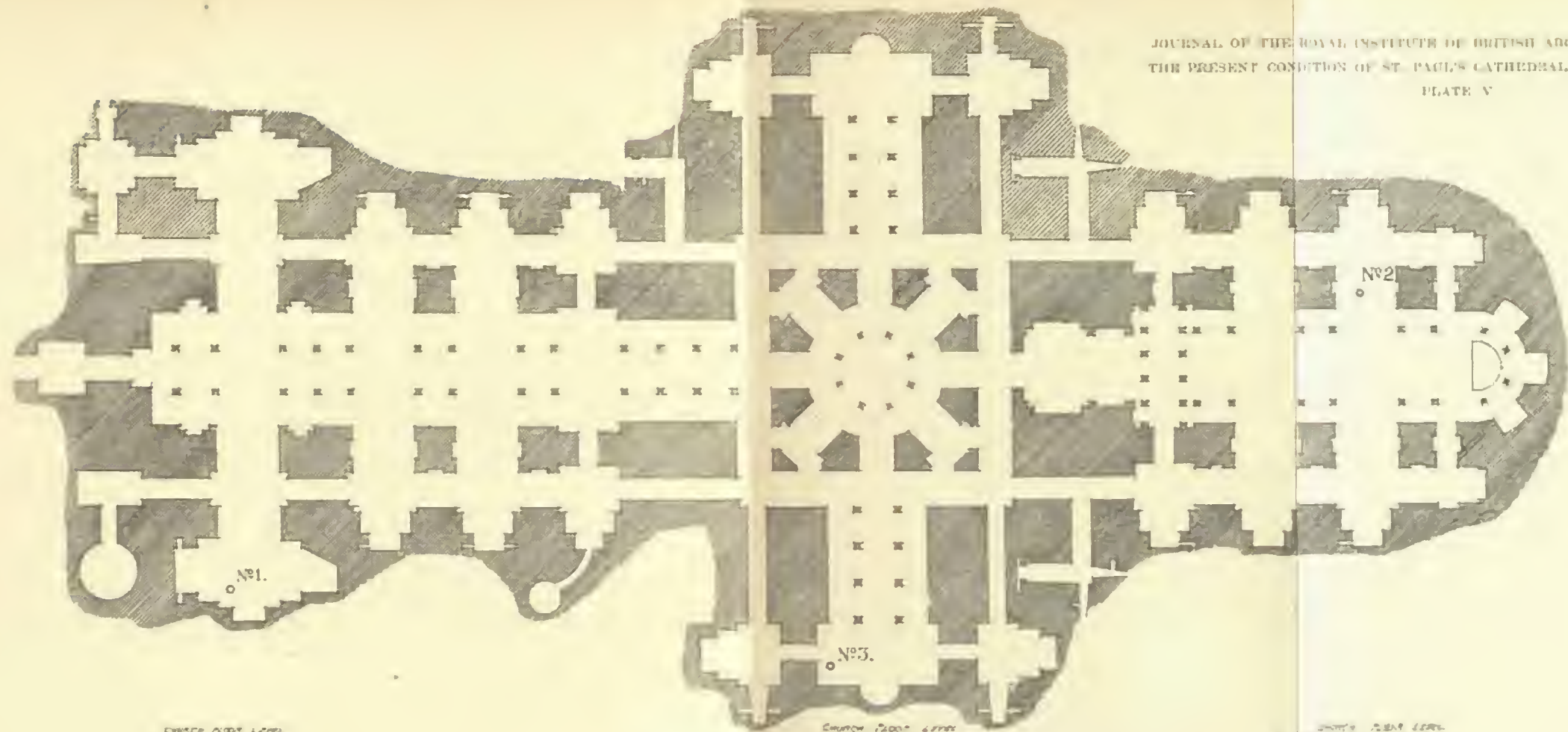
At the top of the great outer dome and at the base of the lantern is a belt or girdle of stone, forming the apparent abutment for the top of the ribs of the outer dome, and appearing as a base for the lantern.

This girdle of stone is about ten inches in thickness and eleven feet in height. It is tied back by metal ties to the main body of the lantern: these are visible just below the stone floor of the Golden Gallery and radiate from the centre. They are about two inches by two inches in section.

All this heavy load of an irregular shape had to be supported by the apex of a hollow cone. A hollow cone is fairly stable if supporting vertical loads round its periphery such as arise from the weight of a circular drum. It is not at all a stable form under loads such as Wren had to deal with, unless these loads are converted into vertical loads uniformly distributed round its circumference, and that is what he has done.

The method adopted was to place on the cone a domed top such as we put over a well, and to use this as a foundation for the lantern. Over this domed top he distributed the weight of the lantern by buttresses, the lower parts being radial and sloping, the upper parts being vertical and at right angles to the square of the lantern and to each other. The view shows these buttresses or foundations, on which rests not only the main body of the lantern





CHURCH FLOOR LEVEL

CHURCH FLOOR LEVEL

CHURCH FLOOR LEVEL

GROUND LINE

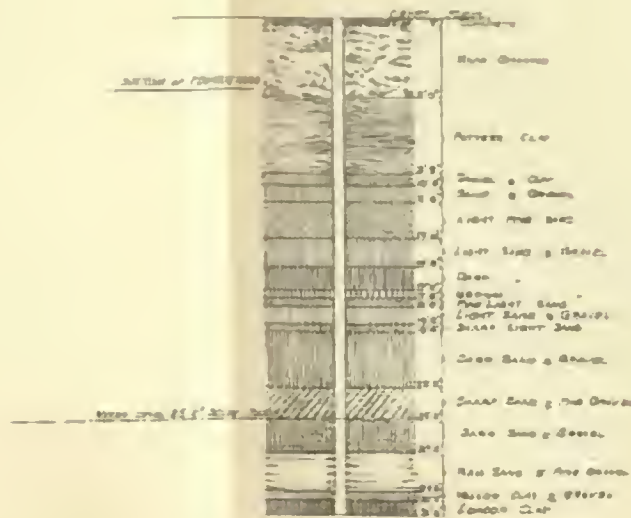
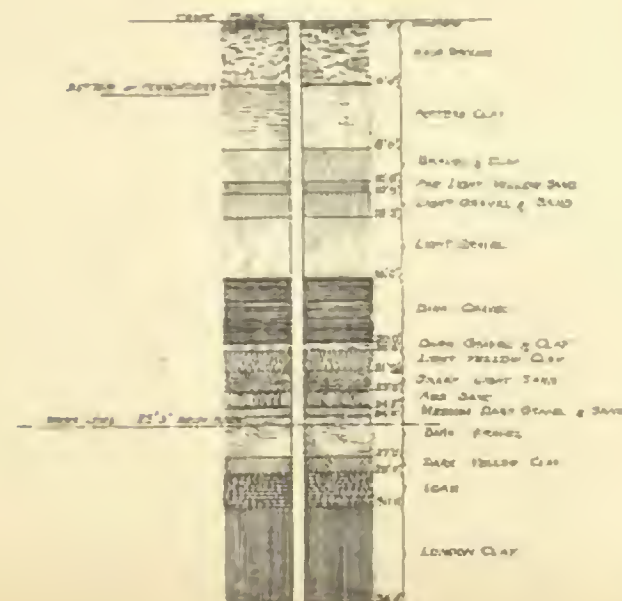
GROUND LINE

GROUND LINE

SECTION of No. 1 BORING

SECTION of No. 3 BORING

SECTION of No. 2 BORING



SCALE OF FEET

but the stone platform of the Golden Gallery. The outer edge of the platform rests on the circular girdle or drum of stone before referred to; the bases of the buttresses and this drum must rest on stones which are part of the arch rings of the dome top of the cone, and which stones have the top beds horizontal, as in sketch, but the dust of ages and the difficulty of access prevented me from actually seeing this.

Like well tops, this domed top had also an eye or opening in the centre, so that in section the lantern seems carried on an arch without a keystone. Of course the reason why this stands is that, unlike arch stones, the stones of which it is built are subjected to pressure on all four faces, so that they cannot collapse inwards. But if the top of the cone or base of the domed top spread outwards, we should see a series of radial cracks extending from the base towards the centre, and this would lead if sufficiently extended to collapse. This spreading of the base is usually resisted in wells by the resistance of the earth. Wren supplied it by three iron ties shown on the original sections, one of which is visible crossing the openings at the apex of the cone and measured 4 inches by  $1\frac{1}{2}$  inch; the other two are buried in the thickness of the stone.



SUPPORTING STONES FOR BASE OF GIRDLE OF STONE UNDER GOLDEN GALLERY.

The positions of these three circumferential ties are well chosen. They are close together, and as the absence of radial cracks in the dome-top has shown that they are sufficient for the work, their effect is to convert the loading immediately below each point at which they occur into purely vertical loading. In an arch the thrust is constant from key to spring; in a dome the thrust is constantly increasing downwards until the inclination of the surface of the dome to the horizon exceeds a certain angle. Below that angle one of two things happens: either the material of which the dome is formed gradually takes up bit by bit this thrust, until, the dome being hemispherical, the whole thrust has been gradually overcome; or else it splits into a series of arches and the thrust remains constant at the value it has at the crown-ring of the arches. But if we mistrust the material, if we are using concrete, or stone, or brick, materials which have but small resistance to tension, and which may have even that small resistance destroyed, as in the case of concrete by shrinkage stresses, or in the case of stone or brick by unequal settlement, we may, as Wren has done, put in a series of bands of a material which will resist tension, and so have either reinforced concrete or reinforced masonry. The effect of each tie, providing it does not yield, is to convert the load on the point below it into a vertical load.

You will observe from the large section shown you that Wren has put a series of seven circumferential ties round the cone above at various points from top to bottom, with the object of making each upper section independent of the spreading of the part below from settlement or yielding of the ties. A great deal has been written about the danger of iron embedded in stone. It is a danger undoubtedly if the air is not excluded from the iron. But given unpainted iron and an impervious covering of mortar or concrete, iron does not rust, but remains bright, nay, even loses such rust as it had, and becomes bright.

You may remember that Mr. Somers Clarke had the great chain round the dome exposed, and found it quite bright and clean; that was because the air had been excluded. It is a more difficult matter to exclude it from air in 18-inch stone or brick wall, and the theory of its protection was not understood in Wren's time.

In a case in the gallery over the south aisle there are many pieces of wrought-iron

cramps and such-like things taken from the old walls which show in a curious way the laminations of the iron splitting apart under rust. There are in the same case pieces of copper which have stood well, and no doubt that metal would have been used but for the expense. Nevertheless, and recognising the dangers of iron, and it is said taking precautions against it by running the ties in lead, he did wisely in thus binding his cupola and dome, and, as time has shown, rendering it in some measure independent of the settlements of the great supporting piers which have since taken place.

We hear a great deal of rather unconsidered talk about domes without iron ties. Domes of any size require very large abutments to be stable without such ties, and though we may put sufficient abutment when the cupola rises from the ground, as in the Pantheon, we can rarely do so when it is raised on a drum, as in the Duomo at Florence or in St. Peter's at Rome.

I hope when time permits to complete the drawing showing the interesting construction of the cone at its base where it unites with the inner brick dome. I do not find anywhere any sketches or drawings showing this clearly, and I have sufficient measurements to do so. I also hope to make a mathematical investigation, but that should be presented to you in a written communication.

## DISCUSSION ON THE FOREGOING PAPERS.

Mr. LEONARD STOKES, *Vice-President*, in the Chair.

Mr. JOHN SLATER [F.] said he had been asked to move a vote of thanks to Mr. Macartney and to Mr. Dunn for their very interesting Papers. The question of the stability of St. Paul's appealed not only to every Londoner but to every Englishman, because St. Paul's was a national building, and had so often been compared with St. Peter's as regards rapidity of construction and various other points. Mr. Macartney's Paper had been very exhaustive with regard to the early settlements in the structure, and it seemed now fairly clear that the main settlements had been on the side they would have expected them to be, viz. on the slope towards the river or to Fleet Street; but the Meeting would have been glad if Mr. Macartney had told them a little more as to the result his investigations had shown to have occurred from the construction of the Tube railway. It was mentioned in the Paper that Mr. Penrose reported that he was very fearful of the results if this railway should be constructed, but he did not gather from Mr. Macartney that any of the effects Mr. Penrose feared had really occurred. This was a subject of very great interest to all architects. He himself had been consulted some two or three years ago as to the safety of Bow Church and various other buildings on the line of

the Central London Railway, and he had a theory which might or might not be correct. It appeared to him that the construction of a tube railway was of such a nature that it was almost impossible to avoid a slight displacement of the strata through which the tube was driven between the time of the first driving of the shield and the entire filling-up of the space both above and below the tube with very strong liquid cement or fine concrete, which was driven in with considerable pressure. During the interval between the first driving of the shield and the thorough encasing of the tube with concrete, he thought it extremely probable that certain settlements would occur, and there was no doubt whatever that they had occurred. The tower of Bow Church, as most people knew, had tilted over, he believed, some six inches, and just after the construction of the tube railway the opinion was expressed that this settlement, this overhanging, might go on increasing and the safety of the fabric be very seriously endangered. He himself took an opposite view, because, after the construction of the tube and the entire filling-up of the space around it, he thought that the effect of the hollow tube through which the train passed was really no more than if an absolutely solid wedge had been driven through

the strata, and that unless the tube itself collapsed there would be no further displacement of the strata, and no further danger to the structure near which it was carried. The construction of a sewer was not of the same nature as the construction of a tube railway, and, as far as he was able to form an opinion, he thought that the Committee of Experts were perfectly right in urging that the sewer which the County Council proposed to construct should not be constructed in the position contemplated, and all that Mr. Macartney had said confirmed him in that view. With regard to Mr. Dunn's Paper, everyone present must have been charmed with that unique isometrical view of the dome and cupola which had been shown on the screen. It must be an enlightenment to all of them; he for one had never seen such a very striking view of the construction of the dome of St. Paul's. He would conclude by moving a very hearty vote of thanks to Mr. Macartney and Mr. Dunn for their very interesting Papers and illustrations.

MR. R. PHENÉ SPIERS, F.S.A. [F.], in seconding the vote of thanks, said that what struck him in Mr. Macartney's Paper more than anything else was the statement that there were already settlements in Wren's time. If he understood Mr. Macartney aright, there was a settlement of nearly six inches of one of the piers which had had to be made good while the building was going on. That was a most serious fact, and the question presented itself to what extent it might be further increased by the shifting of the soil underneath. A point had struck him in comparison with the great dome of the Pantheon. The Paper read some years ago, and the drawings illustrating it, showed that there was actually no thrust whatever in the lower part of the Pantheon because the whole of the construction was built in horizontal courses in brick—the Roman brick-like tiles. That construction was adopted to avoid any thrust in the lower portion. As regards the upper portion, where there was a series of arches, it occurred to him that Wren had adopted a similar system in the upper portion of the cupola which Mr. Dunn had described. He had very much pleasure in seconding the vote of thanks.

MR. FRANCIS FOX, M.Inst.C.E., said it had been his good fortune to visit the Cathedral both in the company of the late Mr. Penrose and also with Mr. Somers Clarke, so he naturally took very great interest in the building. On the question of the arching of the steps at the western portal Mr. Penrose distinctly told him it was due to the copying of the Parthenon steps. As to the injury to the Cathedral, there was no doubt that a great deal of it was due to the construction of the sewer in 1835, and those massive tie-rods were put in, he believed, at that date. As regards Bow Church, he would not refer to that, because they had done him the honour to invite him to

address the Institute in February next, when he hoped to touch upon that subject; \* but he should like to say a word with reference to the tube railway. He thought the diversion of the sewer referred to in the Paper was the right thing to do; but if there had not been another route for it, personally he would not have hesitated to drive that sewer, without the slightest injury to St. Paul's Cathedral or any other building in London. It was only a question of how it was done. He had to superintend with his brother, Sir Douglas Fox, on behalf of the Gresham Committee, the construction of that portion of the Central London Railway which was then being built by the late Sir Benjamin Baker and Mr. Mott up Threadneedle Street. The Gresham Committee were much alarmed lest there should be any damage done to the Royal Exchange and to other buildings. He had an interview with Sir Benjamin, and told him that he did not like the idea of the tunnels being driven under Threadneedle Street so close to the Bank of England and to the Royal Exchange for fear of causing settlement. Sir Benjamin turned to him and said, "I know what you want, you want compressed air. Very well, you shall have it." Hence it was that compressed air was used, and there had not been the slightest movement in the buildings near; if there had been, the frescoes on the walls of the Royal Exchange would have been the first to show that there was settlement. A tube railway could be driven through the clay of London, when it was properly done, without affecting in the slightest degree the buildings above; therefore he wished to dissipate the fear in the minds of many architects that there was danger in the construction of such railways. There was no danger at all if the tube was kept in the London clay, and if the work was done under proper conditions. The diameter of the railway, as compared with St. Paul's, was nothing more than a sort of rat-hole, and no damage could be or need be done to the Cathedral. Some of the photographs shown were very instructive, and somewhat disconcerting. He thought by the proper application of tie-rods and of the grouting machine those difficulties might be very greatly minimised; but when he showed them, as he hoped to do when reading his Paper, the photographs of Winchester Cathedral, he thought they would all be instructed as to what "cracks" meant. Those shown at St. Paul's were displacements and the moving of stones, but as to cracks he would refer them to Winchester. There they had settlements of 2 feet 3 inches, followed by a distortion of the arch above to a further 1 foot 9 inches. The overhang of one of the gables was over four feet, and there were cracks in some places into which,

\* Mr. Francis Fox will favour the Institute with a Paper on "Foundations, the Use of Divers, and the Grouting Machine" at the meeting of the 17th February 1903.—Ed.

without exaggeration, one could put one's head. It was a most lamentable state of things, and he thought that public attention had only to be drawn to that most splendid building, that national monument, Winchester Cathedral, to make people rally round the Dean and Chapter and try to save it from ruin. Otherwise the building was doomed; for the stones were disintegrated, the buildings were out of the upright, and a small portion of the vaulting had fallen in one place. If the public would only support the Dean and Chapter they would be able to restore the building that would stand a thousand years without any cause for anxiety.

Mr. WM. WOODWARD [F.] said he quite agreed with Mr. Fox that if a tube was properly constructed damage was not likely to arise, but he had been engaged in three or four cases with reference to the construction of a tube and the subsidence which had resulted therefrom, and the engineers had proved conclusively that Mr. Slater was perfectly right when he said that it was not the tube, but it was that filling-in over the tube, about a couple of inches, rapidly as it might be done, which caused subsidence. If Mr. Fox could succeed in driving a tube without that two inches then the tube would be properly constructed and there would be no subsidence.

Mr. FRANCIS FOX: That is perfectly true: if the annular space round the tube is not properly filled then you are liable to subsidence, but if you are working under compressed air you have no difficulty about that, because you have ample time to fill it, and you get no subsidence at all.

Mr. J. DOUGLASS MATHEWS [F.] said that about thirty-five years ago he visited St. Paul's Cathedral with the Architectural Association (before Mr. Penrose's time, he thought) and they were shown certain cracks in the south transept. He had been anxious to hear whether any serious settlement had taken place since that time. He was born almost under the shadow of the Cathedral, and he had been there nearly all his life. He therefore knew the place tolerably well, and he had always watched it with great care. He had observed that the south transept had moved to some extent, but from the photographs he had seen that evening there seemed no reason to fear anything serious happening, because much of the settlement that had taken place had probably occurred soon after the Cathedral was built. With reference to the foundations, and also the earth on which it was built, it had fallen to his lot to erect several large buildings south of the Cathedral—one of them very near indeed, in Godliman Street, which was excavated about twenty feet below the street. They were told there was danger in connection with the foundations of the Cathedral, and it led to a consultation. He could only say that both there and in Queen Victoria Street, and in two or three other places, they found a splendid bed of sand which

was very firm; and if there had been any kind of subsidence or any looseness in the sand they should have come across it. In Upper Thames Street they got a very different state of things. About three years ago there were borings taken between Thames Street and the river, and the top soil—what is called the pot earth—varied in those borings from about seven feet up to twenty feet. Below that there was a kind of river-mud, and below that, again, there was a considerable quantity of sand and ballast, so that there was a depth at high water of from thirty-two to forty feet before the solid clay was reached. As far, however, as the Cathedral was concerned, he had never found anything to account for any subsidence. There was something said at the time observations were being made that the river in high tides loosened a great deal of the sand. All he could say was that he had not come across that; and he did not think that any rising of the river would at all affect St. Paul's. He did not know what the levels were, but he should think that from St. Paul's Churchyard to Thames Street the difference would be from thirty to forty feet, and it was not at all probable that any overflow from the river would affect the foundations on which St. Paul's stands.

Mr. J. J. BURNET, A.R.S.A. [F.], in supporting the vote of thanks, said that the photographs shown by Mr. Macartney had interested him very much, and he should like Mr. Macartney to tell them whether he had any records of structural alterations being carried out on that design by Sir Christopher Wren. He asked this because one or two of the arched domes struck him as essentially weak, and, so far as one could judge by the general merits of the design, these were not likely to be the original design of such an architect as Sir Christopher Wren. He was particularly interested in Mr. Dunn's drawing their attention to the really scientific part of the dome, and particularly in his drawings, which were of a kind one did not often see in this country, and he looked forward with the very greatest interest to his further remarks upon it. He should also like to know if Mr. Macartney had discovered the general system under which the iron bands were put round the towers. Was there evidence of each pier having been bound with a desire to prevent it splitting, or was it furthermore attached by another circular band? Was each pier bound, and then each binding attached, so that the eight piers were unified to resist the pressure of the dome?

The CHAIRMAN, on rising, stated that a letter had been received from Mr. Belcher saying that he hoped his absence from the meeting would not be taken as evidence that he had no interest in Mr. Macartney's Paper; on the contrary he took the greatest interest in it, and it was only his doctor's orders which prevented him coming there that evening. They were all aware, continued the Chairman, that Mr. Belcher did not

enjoy the most robust health, and they could readily understand that he could not venture out in the present state of the weather; he was sure Mr. Macartney and Mr. Dunn would excuse his not being present and taking part in the discussion. They had heard two most interesting Papers and had all no doubt come to the conclusion, and might rest content, that St. Paul's Cathedral in the hands of Mr. Macartney was perfectly safe. An enthusiast such as he was not likely to let things go from bad to worse without letting them know. He, the speaker, was bound to confess that the cracks they had seen on the screen were very much less than he expected to see. He rather anticipated cracks of the nature which Mr. Fox described into which one could put one's head, but they could hardly get their finger into any of the cracks shown. He had occasionally seen cracks of that kind on other buildings; yet a little pointing and discreet disguising made the building, he hoped, quite secure! He had been very much interested in what Mr. Dunn said about the rings in the cone. He (the speaker) had been brought up in the theory that there was no thrust in a dome, that there was a series of rings self-contained, and that they could go on piling up those rings as long as they liked, and there would be no thrust. In India, he believed, and other Oriental countries domes were built without centering: a pole of the required radius was placed in the middle, and that formed a movable centre; bricks were built up all round, and eventually the dome was formed. He had always understood that there was no thrust. He hoped that Mr. Dunn, when he gave his further notes on the construction of the dome of St. Paul's, would reconsider the question of whether or not there was any thrust in a dome, more especially in a conical dome. He understood that there were seven ties round the conical dome; no doubt these ties were intended to help to keep the thing together, but he ventured to think it would have stood equally well without them.

The vote of thanks was then put and carried unanimously.

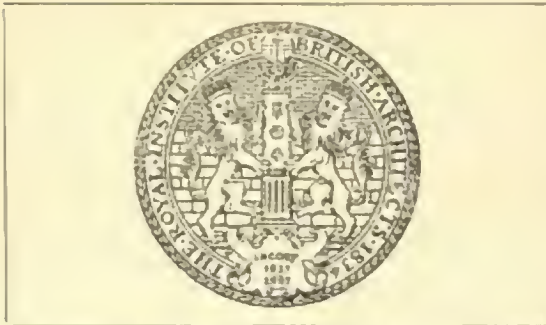
Mr. MERVYN MACARTNEY, in responding, referred to the question of the tube railway and subsidence. He did not think they had discovered any subsidence due to the tube railway at present. The main point of Mr. Penrose's objection was to the station being placed where it was proposed to be placed in Cheapside, near the north-east angle of the Cathedral. The stations, he believed, were far more dangerous to the surrounding buildings than the tube; they formed in some cases something more or less in the nature of drains. Mr. Penrose opposed the station being placed there, and it was moved to Newgate Street. All these questions of drainage, however, were matters of time. From his experience gravel and clay took a long time to be drained, and when a tube was run 70 or 80 feet down it took a very long

time before that would affect a building situated as St. Paul's would be something like 300 feet away from the tube. It might be forty or fifty years before it had any effect. At present, however, he had no data to give upon the point. Mr. Fox had said he would drive a tube anywhere through London clay. He (the speaker) had not had the experience of Mr. Fox: he had only heard the remarks of people who were, he thought, competent to form an opinion—not engineers—and their opinion was that they might pump in as much liquid grout as they liked round the tube and in the London clay, but a large portion of it would disperse, and they would have round the tube a space which might form a drain—he did not say everywhere, but in certain localities. Another point, it was extremely important to exercise efficient supervision over this question of the grouting. Who was going to do it? They could not have the architect put down there under forced pressure, and he did not know who was going to take the responsibility. As regards the arches to the windows referred to by Mr. Burnet, he had to confess that those round by the dome were very poor, but he had no record at all as to whether they were put in subsequently or not. He was rather inclined to take the view that the voussoirs had been splayed since Wren's time.

Mr. BURNET: The clerestory lights are nearly on the line of the thrust of the dome; in one of your photographs there is a haunched dome with a very thin arch: the haunched dome looks in fair proportion for the external of the arched dome, but these haunched domes seem to me to have been cut away as if the light had been cut up.

Mr. MERVYN MACARTNEY: I do not know if that is the case; we have no record of it at all, but it goes all the way round alike.—As regards the question of the piers being braced up with iron tie-rods, Mr. Macartney said he did not think they were subject to that; there were tie-rods from the south portico, at the end of the south transept, running back almost to the dome, but he did not think they were braced round the piers in any way. It was only the south portico and the south front. These piers were added to by Mr. Somers Clarke on the level of the cornice, and they were not visible now from inside.

Mr. WM. DUNN said they all knew that the impressions one got in one's earliest youth were quite the foremost and most lasting; he would therefore, in the few minutes left him, not attempt to remove those Mr. Stokes had received in his young days. As regards another matter referred to in the discussion, Mr. Fox, the eminent engineer who had favoured them with his presence that evening, surmised that someone had put in the rings which he had shown them after the building was up. That was not the case; they were shown upon the original drawings prepared by Wren, or under his directions, which Mr. Macartney had put upon the screen.



9, CONDUIT STREET, LONDON, W., 23rd November 1907.

## CHRONICLE.

### The President.

Mr. Leonard Stokes, *Vice-President*, on taking the Chair at the General Meeting last Monday, announced that the President had been summoned abroad on business.

### Mr. Macartney's Paper on St. Paul's.

Mr. Macartney's Paper on St. Paul's Cathedral has aroused considerable interest not only within but outside architectural circles. St. Paul's, there is no doubt, has as powerful a hold on the hearts of the British people as the Campanile of St. Mark's had on the affections of the people of Venice. Many of the daily papers, London and provincial, published in full the *précis* of the Paper supplied by the Institute, and the gravest concern has been expressed at the mere possibility of disaster to the building. The *Globe* on Tuesday, in an admirable leading article, frankly confesses its inability to comment upon the matter except as it presents itself to the uninstructed mind, and taking for text the following passage from Mr. Macartney's Paper, "Interference with the subsoil was clearly not contemplated by Wren, and without it they might even now reduce the Cathedral's danger to a minimum," it sums up the situation as follows:—

I put in slightly different terms, this is a confession by a most competent authority, who himself is responsible for the fabric of the Cathedral, that that building is in danger, and that any further tampering with the subsoil may render that danger acute. With the ground left in its present state he is prepared to guarantee the stability of the western towers and of the portico which depends on them, but by this condition they stand or fall. And the warning is the more impressive that it is delivered with complete absence of sensationalism. It is something to feel assured that the guardians of what is in some respects the grandest of our national possessions, of a building which year by year is becoming more and more associated with the life of the metropolis, of the kingdom, and of the Empire, are fully alive to the realities of the situation. Forewarned is forearmed, and they are on the qui vive for any militarist scheme or act of vandalism which may impair the safety of their sacred charge. But it is necessary that they should have at their backs a mass

of well-informed public opinion, and that not only the learned societies but the man in the street should be up in arms to resist any proposal and any commercial undertaking which should threaten, however remotely, to bring ruin and destruction to "the dome with the golden cross." The Press have played an active and a useful part in resisting the latest enterprise of modern ingenuity which it was proposed to exercise at the expense of the Cathedral, and the wider the publicity that is given to Mr. Mervyn Macartney's Paper the better.

### The County Hall Competition.

At the meeting of the London County Council last Tuesday it was reported that, as the result of the voting of the twenty-three competitors in the final stage for the designs for the new County Hall, Sir Aston Webb, R.A., had been elected to act as the third Assessor. Sir Aston, it is understood, has accepted the position. The L.C.C. Establishment Committee have recommended that the Medical Examination Hall on the Embankment shall be rented for five weeks for accommodating the designs submitted in the final competition. The assessing is expected to occupy three or four weeks. The latest date for sending in designs is 30th December next. The Establishment Committee suggest that members of the L.C.C. should have the opportunity on two or three days of viewing the designs, and that the public should be allowed to inspect them during a subsequent week.

### Winchester Cathedral.

The King has sent the following letter to the Bishop of Winchester on the subject of Winchester Cathedral:

"Windsor Castle, 14th Nov. 1907.

"DEAR LORD BISHOP,—The King has read with interest, but with deep regret, the letter you have written to Lord Knollys regarding the serious danger still threatening the safety of Winchester Cathedral.

"His Majesty commands me to assure you how sincerely he trusts that the appeal now being made by the Dean and Chapter of Winchester to save this great national monument may meet with a hearty and liberal response from the nation, and that, even large as the sum required is to ensure the safety of the sacred building, it may soon be collected.

"By the King's command I have the pleasure to forward you a cheque for 250 guineas which His Majesty wishes added as a donation from himself towards the "Cathedral Fabric Fund," the success of which fund, let me again assure you, His Majesty most anxiously looks forward to.—I remain, dear Lord Bishop, yours faithfully,

"D. M. PRUNY, General Keeper of  
H.M. Privy Purse."

It is understood that the Ecclesiastical Commissioners have increased their contribution of £2,000 to £5,000.

Mr. Francis Fox, M.Inst.C.E., in the course of the discussion on Mr. Macartney's Paper last Monday, referred to Winchester Cathedral as being in a most lamentable condition. The stones are disintegrated, the buildings out of the upright, and a small portion of the vaulting has fallen. Settlements of 2 feet 8 inches have caused the distortion of the arch above to a further 1 foot 9 inches. The overhang of one of the gables is over 4 feet, and there are cracks in some places into which, without exaggeration, one could put one's head. Mr. Fox earnestly supported the Dean and Chapter's appeal for funds, and expressed the conviction that the building was doomed, unless its thorough reparation could be taken immediately in hand.

#### Exhibition of Architectural Sketches.

An Exhibition of Pen-and-Ink Sketches in Holland, Brittany, &c., by Mr. T. Raffles Davison [H.A.] is announced to be held at the Modern Gallery, 61 New Bond Street, W., from the 29th November to the 12th December. Mr. Raffles Davison's contributions to art are well known from the illustrations in the *British Architect* and elsewhere, and this exhibition of the originals of his delightful and effective sketches will be looked for with pleasurable anticipation by numerous admirers of his masterly work. It is understood that Mr. Walter Crane will contribute a preface to the Exhibition Catalogue.

#### The late M. Emile Trélat [Hon. Corr. M.].

At the General Meeting last Monday the decease was announced of M. Emile Trélat, founder and director of the Ecole Spéciale d'Architecture at Paris, and Hon. Corresponding Member of the Institute since 1884. The Hon. Secretary, Mr. Alexander Graham, F.S.A., in making the announcement, said that M. Trélat was a very distinguished man, and he had had a great career. His life had been devoted unsparingly to the cause of the higher education of architects, and his influence had been considerable in the promotion of architecture. The Institute had been proud to number him among their Corresponding Members. His great knowledge and experience had ever been at their service in correspondence on various matters connected with their art. Mr. Graham concluded by moving that the regrets of the Institute for the loss they had sustained be recorded on the Minutes of the Meeting, and that a letter be addressed on their behalf to the family of M. Trélat sympathising with them in their bereavement.

An interesting account of M. Trélat's work in connection with the artistic and technical training of architects and the foundation of the Ecole Spéciale d'Architecture will be found in one of the Papers by the late Mr. Arthur Cates on "The Higher Education of Architects" [JOURNAL, 6th April 1901]. M. Trélat made important contributions to architectural literature. Some

of his works are in the Institute Library, mostly copies presented by the author.

#### The late George Frederick Bodley.

Mr. Henry Vaughan, the late Mr. Bodley's partner in respect of Washington Cathedral, communicates to the Institute through Mr. Edward Warren [F.], the following resolution passed by the Boston Society of Architects on the 22nd October:—

"The Boston Society of Architects has learned with the most profound regret of the death of Mr. George F. Bodley.

"Earnest, scholarly, efficient, the recognised leader in the rehabilitation of Gothic as a living style, his influence on the profession of architecture has always been exerted in favour of the highest standards and the most noble accomplishments.

"Associated with American architects in the creation of two great cathedrals, his death involves a notable loss to the Church and to American architecture, while the profession throughout the world is thereby left the poorer.

"The Boston Society of Architects desires, therefore, to extend through his associate, Mr. Henry Vaughan, to his family and his colleagues in England the expression of their sympathy and their deep regret.

"BOSTON SOCIETY OF ARCHITECTS,  
per H. J. CARLSON, Secretary."

#### Liverpool Cathedral.

The Liverpool Cathedral Committee have passed a vote of condolence with the family of the late Mr. G. F. Bodley, the joint architect of the Cathedral. A resolution was afterwards adopted investing Mr. Gilbert Scott with full power to act for the future in the construction of the Cathedral, but reserving to the committee the right to appoint a joint architect if at any period it became advisable in their opinion to do so.

#### ARCHITECTURAL REFINEMENTS.

[Ante, pp. 17-51.]

1 Hare Court, Temple, E.C.,  
15th November 1907.

To the Editor JOURNAL R.I.B.A.—

MR. GOODYEAR—MR. BILSON.

SIR,—Would it not be useful for someone who is in sympathy with the conclusions of Mr. Goodyear to kindly give us a guide to the essential points of his theory? Intensely interested in this I have three times embarked on the long communication printed in the last number of the JOURNAL, but have failed to find my way to the exact issues.

In what cases are the facts he finds in ancient buildings not irregularities, but "refinements"?

In what cases are the latter to be attributed to constructive expedients, and in what to idealist intention? And, again, in these last, how was this idealism maintained through the many centuries and through the many generations of constructors to whom the mediæval churches, as we see them now, have been generally due? A guide to the leading facts upon which Mr. Goodyear establishes his position as to the above questions would be a boon to your readers, I believe, as it would certainly be to me.

I beg to remain yours faithfully,

EDWARD S. PRICH.

"A Rejoinder" to Mr. Goodyear has been received from Mr. Bilson, and will appear in the next number of the JOURNAL.—ED.

## THE PRESERVATION OF ANCIENT MONUMENTS.

### Holyrood Chapel.

The allusion in the Opening Address of our esteemed President to the question of the preservation of the Chapel of Holyrood Palace has brought the subject very prominently before the profession, and induces me to say a word on the very important question of restoration, although the question in this case has, I fear, become academic rather than practical.

This building is exceptionally well preserved. There is, speaking broadly, no difficulty in retaining it for all time, even to its most minute detail. The existing work is substantial, or could be made so without the destruction of any ancient nature, however trivial. It is all there. It is incomprehensible how any influential body of men could prefer a useless ruin, however picturesque, to a completed building with all its ancient features preserved. It is impossible by any temporary construction however practical (and hideous) to afford the same protection from the weather to the existing remains as would be afforded by a worthy roof constructed on the original lines.

In the past it has not been considered necessary, because a building has become ruinous, to allow it to remain so. Nor is it always so considered even in these days. The works now in progress at Selby are a case in point. When the central tower and spire of Chichester fell, steps were immediately and very successfully taken to re-erect it.

Surely we owe it to those who in past years devoted their wealth and energies to the erection of such magnificent buildings as this to preserve them for the uses to which they were originally devoted, and not to look on idly while they crumble away; and, on the other hand, not to render them

unsightly by the introduction of protection or support wholly out of character with the structure itself—such as, not to multiply instances, the wooden shores put up some years ago against one side of The Old Hall, Gainsborough, in itself quite a gem of mediæval domestic architecture, and worthy of better treatment; or the stone flying buttresses which disfigure the church of Minster, Thanet.

Restoration means, or should mean, "preservation." Of course there are restorations and restorations. I shall never forget the impression of grandeur conveyed by Stonehenge as I saw it years ago in its deserted loneliness lit up by the ruddy gold of an autumn sunset; one felt that even to touch a blade of grass would be desecration. It makes one shudder to think of the barbarities to which it has since been subjected.

Each building, however, demands its individual consideration. It by no means follows that a treatment loudly called for at Holyrood would be satisfactory (say) at Glastonbury. The condition of the two buildings is wholly different, but, wherever the state of a building is such that it can be preserved and made available once more for the use for which it was originally designed, the obligation for preservation appears paramount.

JOHN COBB [A.].

## MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1907-08, held Monday, 18th November 1907, at 8 p.m.  
—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair; 52 Fellows (including 16 members of the Council), 46 Associates (including 2 members of the Council), 1 Hon. Associate, and numerous visitors—the Minutes of the General Meeting held Monday, 4th November, were taken as read and signed as correct.

The Chairman announced that the President was unable to take the Chair, having been called abroad on business.

The Hon. Secretary announced the decease of George Rackshaw Crickmay, *Fellow*, elected 1884.

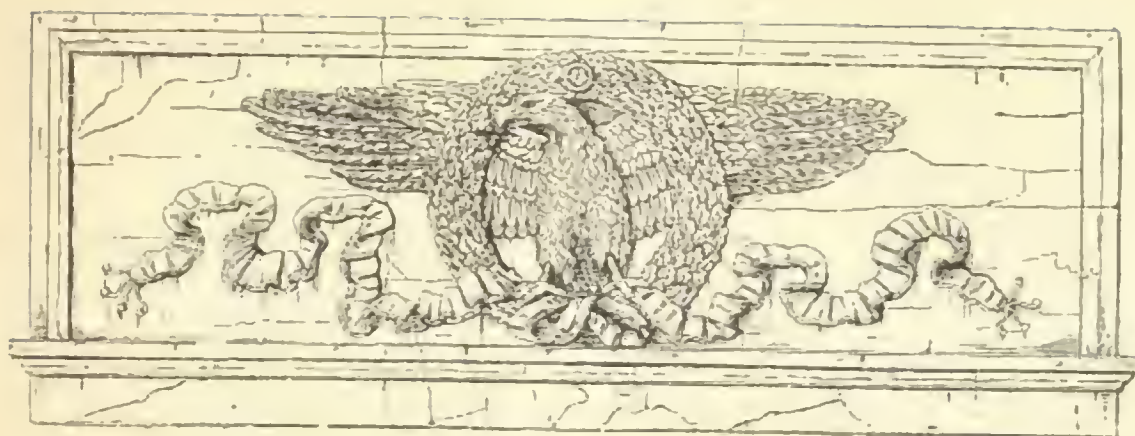
The Hon. Secretary further announced the decease of Emile Trutat, of Paris, *Hon. Corresponding Member*, and the Meeting resolved that the regrets of the Institute be recorded on the Minutes, and that a letter of sympathy and condolence be sent on behalf of the Institute to the family of the late member.

The following members attending for the first time since their election were formally admitted by the Chairman:—viz., Robert Magill Young, B.A. (Helfaut), *Fellow*; Samuel Horat Senger (Christchurch, N.Z.), *Associate*.

A Paper on THE PRESENT CONDITION OF ST. PAUL'S CATHEDRAL, was read by Mr. Mervyn Macintyre [F.], Surveyor of the Fabric; and some notes on the Construction of the Dome of St. Paul's were read by Mr. Wm. Donn [F.].

The subject having been discussed, a vote of thanks was passed by acclamation to the readers of the Papers.

The proceedings then closed, and the Meeting separated at 10 p.m.



## INSPIRATION IN MODERN ARCHITECTURAL ART.

By Professor BERESFORD PITE [P.].

ONE of the first considerations which may present themselves, and possibly an only one, is whether there is any element present in modern architecture which can properly be described as partaking of the nature of inspiration. Some such spirit should be there, without doubt, to steer the fair craft of building; for if the pilot is either dropped or ignored, wreck, ruin, rock, quicksand, will wait on the guidance of a mutinous crew (perhaps the handicrafts), or upon the mercy of an imperious or intoxicated skipper (perchance a policy, a critic, or sculpture), if perchance her inflammable commercial cargo does not first blow her to perdition. For inspiration is needed to guide in difficulty and complexity—same, regulated, sure direction to a perceived and therefore certain anchorage.

But architecture may supply such pilotage to the building craft, and yet be dull; and is any inspiration, properly so called in our case, dull? Or, if otherwise, is its note true, solemnly so, procuring a fundamental harmony for the whole gamut of the decorative arts which awaken into existence with its movement?

It is unfortunately the case that an enthusiast may be so inspired with zeal for his own ideal—itself perhaps a true inspiration in our present sense—that he denies with earnestness the inspiration of all, or nearly all other—all except that of his own choice. How vigorously was not inspiration refused but a short time since to all Georgian architectural art, while admitted for that of Reynolds and Gainsborough! How loth, too, some of us are now to admit inspiration in the architecture of the Regency and early Victorian era, while claiming it with enlightened patriotism for Turner and Constable! After all, was the Gothic revival an inspiration at all? And is not Queen Anne an absurd and depraved recalling of an ignorant and coarsening treatment of refined Italian Renaissance? And is anything an inspiration really that is not a revelation? For have we not *l'art nouveau*, perhaps less rampant than in her first skittish youth, but still inspiring bubbles of exuberant vitality in roughcast and copper?

Can a set tradition as Georgian be an inspiration? If not, is an antiquarian enthusiasm like the Gothic revival one? Is a picturesque mania like Queen Anne's; or must we accept an untraditional, non-antiquarian, bald, modern craze alone as the outbreking of true architectural art?

Artistic inspiration probably has had little to do with the spring, course, or determination of one or other of the well-marked streams of feeling which have flowed through the architectural world during the past century. An analysis, neither subtle nor neutre, will show that the course has been settled for each period by well-understood and mainly external causes and motives, interesting, important, and perhaps almost accidental in their incidence; but which cannot well be identified with inspiration. The architect has been compelled by the atmosphere which he breathed and by the fashion which swayed all around him, and may, by continued and applied study, have caught the aspect of a past phase to the very reproducing of its externals with fidelity, and even with the aroma of antiquity; but this is scarcely the inspiration which suggests, directs, and creates.

But was the Renaissance an inspiration? In itself as a world movement, awakening insight and affection for freedom of thought for literature and for historic art, it is too vast and general to allow the use of the term; but with and since its advent new vistas of suggestiveness have opened to architectural minds, like Brunelleschi's and Michael Angelo's, which have issued in undoubtedly inspiring buildings and art.

To the men of the Early Renaissance who were at the exhausted end of the epoch of the mediæval guilds, the liberty to see and to discover, in order to use, other material than that within the limitations of tradition, for the goldsmith to turn building ornament; for the sculptor to draw mouldings, pediments, domes, and to wrestle as an architect with their construction; for the antiquary to explore and wonder, and then to endeavour to build again in restoration—all this liberty, this new life in a strange sphere, was an inspiration, doubtless, in a certain sense. Just according to the whole-hearted thoroughness with which the craftsmen, set free from their crafts, built out the reaction from their previous limitations and ideals his work was inspired, that is, contrasted vigorously, freshly, and fairly with what had been and was around.

And ever since the Renaissance—though that of the Middle Ages was not the first Renaissance that the world had seen—the same sources in the historical mines of a past expression of building art have been the pits in which subterranean inspiration has been inhaled. We creep to the shrine to-day, and even try Mycenaean odours with which to move the oracle; and the more incoherent and forceful her screams, the more wonderfully inspired must the performance be. The procession backward—though the phrase is absurd it seems to describe the movement of artistic progress described by the word Renaissance—repeats itself, and in default of recreating originals, as if there ever were such, we recreate the reproductions and revive the Renaissance masters. What inspirations would not result if the sketch-books of the masters were published by enterprising and cheap architectural journals!

Are all our inspirations, then, but re-reflections of the past? Ghosts of the departed and inspirations seem akin. Is inspiration brewed in the tomb of decayed ages only, and not produced by that which to us at least and only is the over-living present?

This is the brief question which it will be profitable to us to consider.

Modern architects—and the two words seem sufficient to define what we need—can only translate into building fact the present-day requirements of their clients; they exist for and upon the answer to a demand for useful and suitable buildings, made by the generation of workers, resters, and worshippers which walks in these early days of the twentieth century. Primarily, modern designs are inspired by these factors, and the most earnest and natural sympathy with their clients should be the first obvious plane of inspiration to which the architect aspires.

Beneath this, lying deep within the architect—somewhere, sown by teacher, whether personal or not—is a growing vitalising plant of sympathy with the architectural aspect of all

such work and effort in the past, a unison of thought, in similarity of circumstances, with those who employed proportions that have acquired the convention of use and beauty, and forms that are reminiscent of the sentiment of locality and past use and origin. This growth of artistic life—for we can call it such—seizes colours and infects the first necessary sympathy for the work in hand, and, so far as they unite, produces a sense of harmony, both in fact and sentiment, which echoes past in the present, and present in the past. The new is inspired with a consecrated sentiment of the surviving culture of the world's best, and the past continues in the present, inspiring with refinement and knowledge the ever-varying progressive modernism of life into modesty and sincerity.

The source of this inspiration for the architect is the persistent, unremitting study of the thought that underlies all building work. Study not of past forms only, or of constructional methods alone, though under all the variety of use in materials and handicraft the fundamental laws of gravity hold fast and do not change, but the study of the mental exercise, equipment of mind, environment, and purpose which always has been the process of design. This may be summed up mainly as the study of the reason *why*, so that in his own modern work may be also evident the clear reason of what and why his *hand was* pleased to do. So the modern architect stands revealed in his design as one who has learnt to see clearly, and express simply, his thought in direct building, thus inspiring it with himself.

For such an inspirational source an empty self is no good; a vain falling-back upon mannerisms, cranks, and oddities is open folly. A full man is no fool, and fulness of knowledge in practical architecture is completeness of sympathy with both past and present requirement, purpose, and pleasure in building.

Inspiration waits upon insight. Insight in such a visual art as architecture is attainable to all who will forego blind self-complacency, and earnestly and unremittingly labour to know, that they may make known, the fulness of sympathy which through constructed form makes building instinct with character. This is inspiration, or some part of it.

## AMIENS CATHEDRAL AND MR. GOODYEAR'S "REFINEMENTS."

## A REJOINDER.\*

By JOHN BILSON [F.], F.S.A.

**M**Y rejoinder in reply to Mr. Goodyear will be comparatively short. My Paper† and Mr. Goodyear's Reply‡ are before our readers, and I am quite content that those who are interested in the subject should form their own conclusions on the main question in dispute, and also on the quite unimportant question of the relative merits of our respective methods of discussion. A few additional remarks from me, however, seem to be called for.

It is scarcely necessary for me to point out that my criticism was not in the least intended to cover everything that Mr. Goodyear has ever written. Its object was to inquire whether certain irregularities in mediæval buildings are intentionally designed "refinements," as Mr. Goodyear believes them to be, or whether they are really accidental or at least undesigned results, and to answer the question as far as possible by testing Mr. Goodyear's theories in the case of one typical building, the acknowledged masterpiece of Gothic art. For the purpose of such an inquiry it was in my opinion unnecessary, and it was certainly not my intention, to discuss anything that he had written which was not immediately connected with this particular subject.

For instance, I have expressed no opinion whatever with regard to perspective illusions in Italian churches. As to oblique plans and plans with deflected axes—which Mr. Goodyear says "are to be distinguished in character, though not perhaps in principle"§—my reason for discussing irregular plans at all was that the tendency of Mr. Goodyear's teaching is to suggest that studied irregularity was part of the system of mediæval builders. He writes: "That these methods were 'refinements' in the estimation of these [mediæval] builders may well be doubted. It is more likely that they were regarded as the necessary conditions to the creation of a work of art in architecture."¶ The fact that there are no obliquities or deflections in the plan of Amiens proves at any rate that these were not considered by the designers of

that consummate masterpiece as necessary conditions of their work. Even if I had expressed opinions on irregular plans at variance with the passages from the works of MM. Choisy and Enlart to which Mr. Goodyear refers, that would certainly not justify his remark that I have ventured "to publicly insult" my French colleagues.\* It would have been more to the point if Mr. Goodyear had given us the opinions of MM. Choisy and Enlart on the causes of the deflections at Amiens.†

I was quite aware that Mr. Goodyear had attempted to show that what he calls "vertical curves" must be connected with the classical entasis and its well-known survival in Romanesque times,‡ to which M. Enlart refers in the passage quoted from his *Manuel* by Mr. Goodyear. But because I did not mention this passage, Mr. Goodyear is kind enough to suggest that I must be either ignorant or deficient in honour. The reason, of course, was that I see no analogy between a column of which the whole circumference diminishes and a group of shafts (like those of the nave and crossing at Amiens) which do not diminish at all, but lean bodily with the wall to which they are attached. If, too, the "lean" can, as I believe, be proved to be accidental, and not intentionally designed, the suggested connection with the entasis vanishes altogether.

Before dealing with the comparatively small part of his Reply which Mr. Goodyear devotes to Amiens, it may be well to recall what he had previously written on the deflections there.

In 1904 Mr. Goodyear named the cathedral of Amiens among the most conspicuous cases of widening which he had so far observed in France.§ In three publications he devoted to Amiens some twenty pages of text, duplicating each other to some extent. One of these is a description of

\* My colleagues of the *Société française d'archéologie*, at any rate, so far from appearing to be "insulted," took the trouble to make a translation of my criticism for publication in the *Bulletin Monumental*, lxxi. 32.

† The extract from M. Choisy's letter on Reims cathedral, which Mr. Goodyear mentions (p. 48), is significantly non-committal as to the causes of the deflections.

‡ Noticed, for instance, in A. de Caumont, *Abécédair d'archéologie: Architecture religieuse* (p. 197 of 5th edit.), and in Viollet-le-Duc, *Dictionnaire*, iii. 494.

§ *Architectural Record*, xvi. 441.

¶ *Mémoires*, p. 26; *Architectural Record*, xvi. 447; *Edinburgh Catalogue*, p. 119.

\* The editor of the *JOURNAL*, kindly sent me an advance-proof of Mr. Goodyear's Reply, and a chance visit to France enabled me to revisit Amiens after reading this proof.

† *R.I.B.A. JOURNAL*, 3rd Series, XIII. 397.

‡ *Ibid.* xv. 17.

§ *Edinburgh Catalogue*, p. 26.

¶ The inverted commas are Mr. Goodyear's.

\* *Edinburgh Catalogue*, p. viii.

twenty photographs illustrating the deflections at Amiens.\*

In 1905 Mr. Goodyear wrote: "The total divergence at Amiens has been plumbed, and is about 2.80 (feet), or 34 inches, throughout the nave and choir."† He explains that this plumb measurement "was taken through an opening in the vaulting near the south-west pier at the crossing."‡ The same measurement of the divergence of the western piers of the crossing was given in his two publications of 1904.§ In one of these he wrote: [The divergences] "at Amiens appear to be uniform and parallel through the choir and nave, with the exception that the great piers at the entrance next the organ gallery do not diverge, and that those next them diverge less than the rest."

I challenged the accuracy of Mr. Goodyear's estimate of the divergence of the western piers of the crossing on the strength of a drawing preserved in the office of the Cathedral works, and signed by M. Massenot, who was *architecte-inspecteur des travaux de la cathédrale* under Viollet-le-Duc from about 1860 onward. According to this drawing the greatest divergence, on the northern face of the south-east crossing pier, is 5 inches, and Mr. Goodyear now admits this to be correct. The drawing shows the divergence of the northern face of the south-west crossing pier to be about 3½ inches; Mr. Goodyear now makes this 5 inches. The drawing shows the lower part of the south-east crossing pier (northern face) as vertical; Mr. Goodyear states that it bulges to the extent of 3 inches. I agree that there certainly is a bulge on this face.¶ Mr. Goodyear comments severely on the inaccuracy of this drawing,\*\* but the omission of the bulge on the south-east pier and the difference of 1½ inches in the divergence of the south-west pier are the only points in which his latest observations differ from it. The net result is that Mr. Goodyear, having previously stated that he

had plumbed the divergence at the crossing as 34 inches—or rather 29 inches, excluding the bulges—now admits that it is really only 10 inches (5 inches on each side), or about one-third of his previous estimate.\*

Mr. Goodyear gives an explanation of his mistake, which I do not profess to understand, in view of his previously published statements. He is much more concerned about my shortcomings, which perhaps is only natural. One sentence which he has written in this connection well illustrates his method of conducting a discussion. He says (p. 43): "For the student of Mr. Bilson's criticism I cannot offer a more convincing proof of his delinquencies as an observer than the extraordinary oversight which led him to publish as reliable documents the drawings of the southern crossing piers which make such an imposing appearance in his Paper." Mr. Goodyear can offer no more convincing proof of my delinquencies than my acceptance of an official drawing in which (according to his own figures) he has discovered two errors, of 3 inches and 1½ inches respectively, although the publication of this drawing has resulted in his own admission that his first "plumbing" of the divergence as 29 inches must be reduced to 10 inches!

Mr. Goodyear remarks on my "total neglect of the nave as regards attested and accurate observations" (p. 40). My object, however, was not to put forward a set of rival observations, but to enquire how far Mr. Goodyear's own observations justified his theories. Beyond the plumbings in the triforium passage which he published in the *Edinburgh Catalogue* (p. 123), Mr. Goodyear's observations on the nave were almost altogether based on his grossly over-estimated figures of the divergence at the crossing. Of the nave I wrote: "It is probable† that some movements corresponding with those of the crossing piers have taken place in the nave, caused by the thrust of the aisle vaults inward and by the thrust of the high vault outward, but the divergences are so small that they are not appreciable to the eye"—so far this is perfectly true—"and, whatever may be their precise extent, they are certainly not greater, and most probably are much less, than those of the crossing piers" (p. 415). Mr. Goodyear's latest observations, which I willingly accept as correct, show that the divergences in the nave are greater than those at the crossing, and the latter part of my remark just quoted, which did not pretend to be based on any plumbings, is

\* *Memoirs*, p. 26.

† *Catalogue*, p. 119. The divergence, excluding the bulges, would thus be 2.40 feet, or 29 inches.

‡ *Ibid.* p. 121.

§ *Memoirs*, p. 27; *Architectural Record*, xvi. 450.

|| *Architectural Record*, xvi. 450. Compare this statement with the results of Mr. Goodyear's latest observations in his table on p. 45, *supra*.

¶ A re-examination of this drawing has suggested to me that, from the absence of figures on the lower part of the pier and from the way in which the pier is drawn, it is probable that this lower part was not actually plumbed. However this may be, it is certain that there is a bulge on this face which is not shown on the drawing.

\*\* Mr. Goodyear claims to have "conquered" M. Favry, the *architecte-inspecteur des travaux de la cathédrale d'Amiens*. I do not understand exactly what Mr. Goodyear means to convey, but M. Favry tells me that he showed M. Massenot's drawing to Mr. Goodyear, as he had already shown it to M. Durand and to me, without any guarantee of its accuracy, and that he looked at the photographs which Mr. Goodyear showed him, but that he gave no opinion on the explanation of the deflections.

\* Mr. Goodyear speaks of my "contempt for scientific photography," but my criticism was much more concerned with his results than with his methods. Either his first photographs or his calculations from them must have been strangely unscientific to have led him into such serious inaccuracies.

† In his quotation (p. 43) Mr. Goodyear omits the words "it is probable that some."

therefore inexact. Mr. Goodyear's figures show, however, that the *extreme* divergence in the nave is less than two-thirds of his own previous estimate.

In 1904 Mr. Goodyear asserted that four of the piers of the transept tapered about three inches in their height, and he went on to say: "The facts, as above stated, are attested by the Brooklyn photographs, with plumb-lines for each individual pier, as far as the leans are concerned, and the measurements, for the leans as above given, were

can scarcely complain if I say that at any rate this "refinement" existed only in his imagination.

So much for the facts. But the principal importance of the facts lies in the assistance which they afford in arriving at an accurate conclusion on the causes of the irregularities. The real question at issue is not whether Mr. Goodyear and I are accurate observers, but whether the irregularities are intentionally constructed "refinements." And here I repeat of Mr. Goodyear's latest observations that their chief value



FIG. 9.—AMHERST CATHEDRAL, SOUTH TRANSEPT, EAST SIDE, FAY NEXT CROSSING (12, 20).

obtained in each individual case by careful sighting on the plumb-lines. As regards the perpendiculars and the tapering, the facts are believed to be as stated, and have been carefully tested in various ways, although there are two instances in which Renaissance monuments, placed against the piers, interfered with dropping the plumb-lines for more than half their height."\* I had one of these piers measured, and so was enabled to deny that they tapered as Mr. Goodyear asserted. He now admits that the piers do not taper (p. 48).† He

will be found in the fact that they afford in themselves evidence in disproof of the theories which he bases upon them.

I will begin with the lower deflections, or 'bulges.' I have already given my reasons for asserting that these deflections are due to the thrust of the great arcades and aisle vaults (p. 412). The cracks shown in fig. 8 decisively demonstrate this for the south-eastern crossing pier

wrong about the leaning mullions, because I speak of one (the only one he had mentioned), and there are two. Considering the movements which have taken place in the transept, I should not be the least surprised to hear that there are more than two leaning mullions.

\* *Architectural Record*, xvi. 452-4.

† Mr. Goodyear goes on to say that I am undoubtedly

(18), where Mr. Goodyear finds the lower deflection, or 'bulge,' to be most pronounced (3 inches). One of these cracks extends upwards through the string-course and parapet, in the central opening of the right (or southern) half of the triforium in this bay.\* As the masonry is excellently executed, one can readily gauge the extent of the movement demonstrated by this crack. The ordinary joints measure a trifle less than three-eighths of an inch; the cracked joint measures  $2\frac{1}{4}$  inches, proving a lateral movement of  $1\frac{1}{4}$  inches at this point, as indicated by this one crack; and, as will be seen from the photograph, there are others. Similar cracks in the spandrels of the arcades and through the triforium parapet exist in all the bays adjoining the crossing piers, besides others in the extreme bays of the transepts † connected with other movements in the structure of the transepts. I have taken measurements of these cracks, which it would be tedious to give here. Suffice it to say that they prove beyond the possibility of doubt that the bulges have been caused quite naturally by movements in the structure, and are certainly not "refinements."

This is true also of the nave, where Mr. Goodyear finds that four of the piers lean inward slightly (1 inch to  $1\frac{1}{4}$  inches) in a height of about forty feet. I suppose that he still contends that this slight 'lean' is intentional. If so, it is difficult to understand why only four piers were built to lean, and the remaining eight perpendicular.

To turn now to the upper deflections, or 'backward leans.' The present condition of the building proves conclusively that, as I asserted, these are due to the thrust of the high vaults. I need say nothing further about the crossing, for in his Reply Mr. Goodyear makes no attempt to meet the historical and structural evidence set forth in my Paper,‡ which is dead against his theory of intentional deflection.§ I will therefore confine my remarks to the deflections in the nave.

Mr. Goodyear's latest observations show that the 'backward leans' of the vaulting shafts in the nave gradually increase from the crossing westward, and are greatest at the piers 5 and 6, † two bays from the west end; and that the deflections are greater on the north side than on the south. On the north side they increase from 5 inches at the north-western crossing pier (15) to  $11\frac{1}{2}$  or 12 inches at pier 5. On the south side they increase from 5 inches at the south-western crossing pier (14) to  $15\frac{1}{2}$  or  $17\frac{1}{2}$  inches at pier 6.

In the two western bays there is a sharp return to the vertical of the tower piers 1 and 2.\* So far, therefore, from the divergences in the nave being "uniform and parallel," as Mr. Goodyear previously asserted, they vary considerably, and this pronounced irregularity of divergence is in itself a strong argument against intentional design.

What, then, are the arguments by which Mr. Goodyear seeks to prove intentional construction for these deflections? They are two.

1. Mr. Goodyear states (p. 47) that "the divergences are visibly in straight lines" (although in his previous publications he had always described them as "vertical curves," †), and that they commence at the capitals of the arcades. He argues (p. 48) that the thrust of the nave vault could not possibly push outward the wall and shafts below the triforium down to the arcade capitals against the aisle vaults and their abutments. This argument appears to me to be based on a misconception as to the direction of the thrusts, a misconception which might be removed by a study of Viollet-le-Duc's article on Construction.‡ I am not certain, either, that Mr. Goodyear is correct in thinking that the divergences are in perfectly straight lines from the arcade capitals upward, for a comparison of his table (p. 45) with his plumbings in the triforium passage § shows that the inclinations are not precisely the same. It is possible that, after all, the profiles of the Amiens drawing may more correctly represent the actual facts.

2. Mr. Goodyear's other argument is based on the present condition of the nave vaulting. I will deal with this in connection with the indications of movement which prove that the deflections of the piers are due to the thrust of the high vaults. I shall show, too, that the indications of movement are most pronounced where Mr. Goodyear's table indicates that the deflections are greatest.

Mr. Goodyear says (p. 47) that "M. Durand's excellent book gives us to understand that the Amiens nave vaulting has never been repaired"; and (p. 49): "if the nave vaulting had been rebuilt or repaired, M. Durand would have known it, and M. Durand would have mentioned it." M. Durand has never said that the nave vaulting has not been repaired (there is, of course, no question of reconstruction), and Mr. Goodyear's statement is certainly bold, in face of the dilapidations described in the reports of Sambrucy and Grandcolas,¶ which must inevitably have necessitated repairs.\*\* We

\* This is the bay shown in Mr. Goodyear's fig. 3, p. 42, ante.

† See my Paper, p. 406.

‡ *Ibid.* pp. 409-10.

§ Mr. Goodyear says (p. 48) that my argument on the crossing piers has no point, because it does not cover the nave.

¶ I follow M. Durand's numbering throughout. See the plan in my Paper, p. 402, also reproduced on p. 43, ante.

\* See Mr. Goodyear's table, p. 45, ante.

† *Memoirs*, p. 20; *Architectural Record*, xvi. 447, 450; *Catalogue*, p. 119.

‡ *Dictionnaire*, vol. iv. See especially p. 65 and fig. 34.

§ *Catalogue*, p. 123.

¶ See my Paper, fig. 8, p. 413.

¶ *Ibid.* pp. 409-10.

\*\* M. Durand tells me that he believes that the nave vaulting has been repaired, but that these repairs have been comparatively slight, as its condition did not demand extensive repair.

shall see, however, that the present condition of the vaulting amply demonstrates the movements which have occurred.

The abutments of the nave vaulting have undergone considerable repair and reconstruction. On the south side several of the great buttresses above the level of the aisle roof bear dates of the forties of the nineteenth century.\* The buttresses on the north side were repaired in 1895-6.† Indications of movement can still be distinguished in most of the arches of the flying buttresses in the shape of widened joints which have been pointed up. I noticed a marked indication of this kind in the lower arch of the flying buttresses 3 a, b. The shafts outside the clerestory, under the heads of the lower arches of the flying buttresses, have in many cases been renewed.‡ Some of the lintels over the triforium passage are fractured,§ among them that behind the pier 4.||

Let us now look at the walls on the inside of the westernmost bays of the nave, where Mr. Goodyear's observations show that the deflections are greatest. On the north side, the vaulting-shafts on pier 5 (second from west end) lean backward to the extent of  $11\frac{1}{2}$  or 12 inches, and the shafts on the next pier westward (3) lean backward to the extent of  $7\frac{1}{2}$  inches. I understand Mr. Goodyear to say that these 'leans' are in straight lines from the capitals of the arcade piers to the capitals of the vaulting shafts, and on this he bases his conclusion (p. 48) that "the entire surface of the masonry has a constructive batter up to the triforium string." This, however, is not all. As the arcade piers 3 and 5 are perpendicular, the springings of the arcade arches are in a straight line on plan. As the pier 1 (tower pier) is perpendicular, without any divergence in its whole height, the face of the wall immediately under the triforium string of the western bay, 1, 3, must follow an oblique line on plan from the vertical pier 1 to the deflected pier 3, the measure of obliquity being the proportion of the total deflection for the height from arcade capital to triforium

string (about  $2\frac{1}{2}$  inches). The arch and spandrels of this bay must therefore have been built, not only with a constructive batter, but also with a constructive twist on the surface of the masonry. The same conclusion would be true also of the next bay, 3, 5, though the twist would be less, the obliquity here being the proportion (for the height) of the difference between the  $11\frac{1}{2}$  or 12 inches deflection of pier 5 and the  $7\frac{1}{2}$  inches deflection of pier 3. If, on the other hand, I am right in my contention that the piers were originally built perpendicular, and that they have been pushed out of plumb by the thrust of the nave vaulting, the irregularity of the deflections in the western bays must have resulted in some injury to the structure. As the differences of the deflections are  $7\frac{1}{2}$  inches for bay 1, 3,  $4\frac{1}{2}$  inches for bay 3, 5, and  $2\frac{1}{2}$  inches for bay 5, 7,\* the injury would be greatest in the western bay 1, 3. What has the structure to tell us? In the western bay 1, 3 there is a pronounced crack in the eastern spandril of the main arcade, and there are cracks through both arches of the triforium, extending upwards through the sill of the clerestory window; there is also a crack in the relieving arch in the thin wall at the back of the triforium of this bay. In the bay 3, 5 there are slighter cracks in both spandrels of the main arcade, and also in the western spandril of the bay 5, 7. The south side tells a similar story. In the western bay 2, 4 there is a crack in the eastern spandril of the main arcade, extending through the triforium parapet, and there is a corresponding crack in the tracery of the eastern half of the triforium.

Let us now examine the nave vaulting itself. There are cracks in the vault-cells of every bay. The cracks in the central cells, A, B (fig. 9 †), are generally irregular. Those in the wall-cells, C, D, are for the most part defined cracks, E, F, running in a direction parallel with the wall. These are visible in every bay on the north side, and the longitudinal direction of the cracks is very marked in some of the bays on the south side. In some bays there is more than one such crack in the wall-cell. On the north side the cracks are most pronounced in bay 3, 5 and in the bay next the crossing, though the cells of bays 1, 3 and 5, 7 are also much cracked. On the south side the cracks are most marked in bays 2, 4; 4, 6; and 6, 8; and in the bay next the crossing. The longitudinal direction of the cracks, parallel with the wall, in the wall-cells is very significant, and is absolutely conclusive as a proof of lateral movement in the walls.

Significant, too, is the fact that it is only in the western bays, where the deflections of the piers are greatest, that cracks are to be noticed in the

\* G. Durand, *Monographie*, i. 171, n. 5.

† *Ibid.* i. 193.

‡ The bases of three on the south side bear the date 1845 (*ibid.* i. 171, n. 5).

§ At A on fig. 2 in my Paper, p. 403.

I said (p. 410) that the fracture of these lintels "could not have happened if there had been no movement in the structure." Mr. Goodyear stigmatises this as one of my erroneous assertions (p. 48), and quotes against me M. Durand's explanation, which, he says, has escaped my attention, although the passage which he quotes from M. Durand is precisely the passage to which I referred in my foot-note in support of my statement. Mr. Goodyear adds: "Suffice it to say that M. Durand proves that the fractures are not due to thrust from the nave vaulting." Of course he proves nothing of the kind. "La compressibilité des parties antérieure et postérieure du piler se trouvant inégale" implies movement, and this movement can only have been caused by the thrust of the nave vault. I have M. Durand's authority for saying that he entirely agrees with me on this point.

\* Where Mr. Goodyear gives two measurements in his table I have taken the average.

† Fig. 9 is simply intended to be a diagram to show the positions of the cracks mentioned above.

ribs of the vault.\* There is a considerable crack in the northern half of the diagonal rib 2, 3 (at G, fig. 9), and another in the northern half of the transverse rib 3, 4 at H. There are less-marked cracks in the northern halves of the diagonal ribs

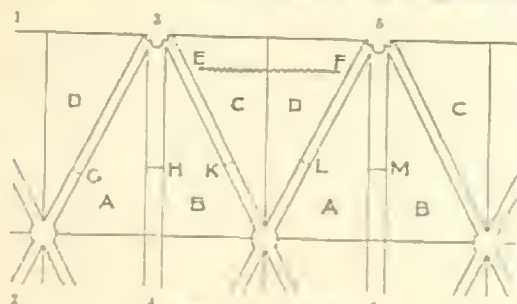


FIG. 9.—NAVE VAULT.

3, 6 at K, and 4, 5 at L. There is also a considerable crack in the northern half of the transverse rib 5, 6 at M. It will be observed that all these cracks in the ribs are on the north side, where Mr. Goodyear's observations show the deflections to be greater than on the south side.

Mr. Goodyear in his Reply makes no mention whatever of these cracks in the walls and vaulting.† It is scarcely possible that, during his stay of several weeks at Amiens, he could have failed to notice them, especially as I had mentioned them in my Paper (pp. 406 and 410). Is it because he fails to appreciate their significance as affording decisive proof of structural movement? In that case one would find it less difficult to understand his curious idea that to build piers out of plumb in the direction of the thrust "tends to solidity," and "forestalls" the effect of the thrust (p. 37).

However this may be, Mr. Goodyear has now modified his argument from the condition of the vaulting. When he supposed that the extent of the divergence of the piers was one-and-a-half times the actual extreme divergence, and about three times the actual divergence at the crossing, he argued that "no vault could spread to that extent without collapsing."‡ Now he argues that if the "vaulting arches have gone down they must have become distorted, and if they have been distorted that distortion must be visible" (p. 47). I agree. He adds (p. 48): "Mr. Bilson will hardly say that the Amiens vaulting could settle downwards 10 inches at the fifth pier (one-half the widening at

that point)" . . . without showing some signs of depression and distortion which would have attracted the notice of Viollet-le-Duc,† and which would also be visible now." But Mr. Goodyear himself admits "a slight distortion of the ribs of the vaulting which correspond to" pier 5; that is, precisely at the point of greatest deflection of the piers, though he asserts that "there is no subsidence there at the crown," and mentions some of his photographs as proofs. There is, however, no possible point of view from which photographs could be taken which would prove the absence of settlement at the crown. The question must be decided by the condition of the ribs themselves.

So far from distortion being confined to the single transverse rib 5, 6, it is possible to distinguish distortion in most of the transverse ribs and in many of the diagonal ribs of the nave vault.‡ It is, however, in the ribs of the western bays that the distortion is most marked. The diagonal rib 1, 4 shows pronounced distortion in its northern half. The transverse rib 5, 6, between the piers of greatest divergence, shows the most marked distortion of all. In its northern half the upper one-fourth of the curve of the arc has been flattened out almost straight, and at the crack M (fig. 9) the profile dips, slightly reversing the curve of the rib at this point. The southern half of this rib also shows marked distortion, part of the curve being flattened out nearly straight, but the distortion is lower down the curve than in the northern half. In fact, everything in the present condition of the vaulting—cracks in the cells, cracks and distorted curves in the ribs—proves the movement which has caused the deflections of the piers.

In conclusion I refuse to believe—as Mr. Good-

\* I do not agree that the depression at the crown would be "at least one-half the given amount of divergence." Apart from any variation in the thickness of the joints, the length of the arc (or soffit of rib) would remain the same. If the length of the chord had also remained the same, the depression at the crown for the transverse rib 5, 6, where the divergence is 10 inches, would not exceed 8 inches. But the manner in which the northern half of this rib has been distorted, by the flattening out of the upper one-fourth of its length, would reduce the real drop at the crown to much below this figure.

† Mr. Goodyear had previously quoted the passage from Viollet-le-Duc as showing that "no fissures, or partings, or settlement at the crown of the arches of the nave vaulting, had come to the knowledge of Viollet le-Duc" (*Catalogue*, p. 120). But the existence of the cracks and rib-distortion is undeniable. Viollet le-Duc was a practical man, and, as he must have known that the movement in the nave of Amiens was insignificant compared with that in some churches with which he had to deal, he may well have considered it to be negligible from the point of view of the solidity of the building, of which he was speaking in the passage quoted.

‡ In many cases it is impossible to reach a position from which a good view of the ribs can be obtained. I can, however, assert distortion with certainty for the southern half of the transverse rib 9, 10, for the northern halves of 11, 12 and 13, 14, and for the northern halves of the diagonal ribs 7, 10 and 9, 12.

\* I speak here only of cracks which can be readily seen. It is probable enough that there are others which have been pointed up. I may add that I had noted that the cracks in the ribs and vault-cells were very pronounced in the western bays, before I had seen Mr. Goodyear's Reply, and consequently before I knew that the deflections were greatest there.

† Nor does he ever mention the iron ties which have been inserted over the vaulting in the eastern bays of the nave, to prevent further movement.

‡ *Architectural Record*, xvi. 462.

year invites us to believe—that the builders of the great French cathedrals ever built their piers with a ‘backward lean’ in the direction of the thrust—a procedure directly opposed to the principles which controlled their structural design, where all their efforts were concentrated on the problem of successfully counteracting thrust. No serious explanation has been vouchsafed to account for the irregularity of the ‘backward leans’ at Amiens, if they are to be considered as due to intention: why the western piers are perpendicular, while the divergence reaches its maximum two bays from the west end, and gradually decreases towards the

crossing. Nor will it do to argue that part of the deflection may be due to intention and part to movement, for at the east end of the nave, where the deflection is least, the cracks in the structure prove that the deflection is due to movement. I venture to think that no architect who takes the trouble to examine the evidence will doubt that it bears out the conclusion set forth at the end of my criticism. No one who studies this wonderful building need be surprised that movements have taken place in the structure. The only marvel is that the movements and deflections are not much more pronounced than we find them to be.

## ARCHITECTURAL IRREGULARITIES IN BYZANTINE CHURCHES.

By RAMSAY TRAQUAIR [A.].

IN Professor Goodyear's reply to Mr. Bilson (JOURNAL, 28th November 1907) he cites S. Mary Diaconissa in Constantinople as an example of architectural refinement.

I measured and examined this church along with the other minor churches of Constantinople in the summer of 1906. Possibly some of my notes may be of interest.

In the *Edinburgh Catalogue* Professor Goodyear says of S. Mary Diaconissa (pp. 12-17):

“It is self-evident that the thrust of the vaulting could not produce a divergence in such masses of masonry in straight lines reaching to the foundations, even supposing that an accidental divergence of 16 inches could occur without producing the disintegration and downfall of the vaulting. In the event of an accidental movement the lines would be bent or broken near the top, and the inclinations would not be continuous in straight lines. It will also be observed . . . that the cornice . . . is horizontal, whereas the marble casing both above and below the cornice is cut and fitted in oblique lines.”

Further on:

“That these bands (in the choir) are not due to thrust is abundantly apparent from the fact that they are continuous and uniform in inclination up to the solid rear wall of the choir. Over this wall there is no more vaulting thrust than there would be if the entire church were a solid mass of masonry.”

The church is divided in height by two string-courses or cornices, one at about 20 feet from the pavement, the second at the springing of the vault. The wall is set back a few inches at each of these cornices, as noted by Dr. Goodyear. This is a common feature in Byzantine churches—whether done for optical effect, to support scaffolding, or to lighten the walls it is difficult to say.

The “solid rear wall of the choir” is evidently Turkish. This is shown both by the form of the

windows and by the traces of the original semi-circular apse still visible outside. The present square end wall of the church was built probably when the apse fell in—at some time after the Turkish conquest. It can accordingly have no effect on the divergence of the walls. All the existing vaults are very much distorted. Those over the choir show a distinct point as though Turkish. The entire dome is certainly a Turkish addition. The divergence of the walls has in fact disintegrated the original dome and vaulting. The thrust of the dome and dome arches has even been great enough to push out the angles of the cross on the diagonal. The marble lining, to judge from the style of the carving on the eikon frames, is later than the church, and would therefore be fitted to the form of the church.

With regard to the thrust affecting the walls from top to bottom the case of Sta. Sophia is instructive. Here the thrust of the great dome arches has very seriously distorted the cross arches in the gynæceum. Yet the great piers are not “bent or broken near the top,” though their divergence must be greater than anything in S. Mary Diaconissa.

In the monastery of the Chora (“Mosaic mosque”) the alterations have been even more extensive than in S. Mary Diaconissa. The original plan is hidden under alterations of the fourteenth century, and the central dome has been rebuilt. Even the main outlines of the original church are difficult to reconstruct; how much more so its refinements.

The enormous proportion of mortar to brick in Byzantine walls (the mortar usually exceeds the brick in volume) must have rendered them peculiarly liable to bend or move, especially during the first year after their erection. The Byzantine builders were very careless, as shown by the ground plans of the churches, and the “limit of

accuracy" in the Constantinople churches is at least three or four inches.

Finally, fire, earthquake, and the hand of man have pulled these buildings about to such an extent that of all the domes now standing over the Byzantine churches only one or two can with

confidence be regarded as original; walls are winding and vaults are cracking even at the present day. The divergences and irregularities in S. Mary Diaconissa and in the other Constantinople churches are capable of many explanations besides that of intentional refinement.

## REVISION OF THE CHARTER AND BY-LAWS.

At the Business Meeting of Monday, 2nd December, Mr. EDWIN T. HALL, *Vice-President*, in the Chair, the proposals of the Council for the revision of the Charter and By-laws were brought up for the approval of the General Body. The amendments carried at the Special General Meeting of the 2nd July last [JOURNAL, 27th July, p. 617] had been adopted by the Council, and will be found embodied in the proposals as brought before the General Meeting and set out below in the right-hand column of each page.

### *Clauses in Present Charter.*

II. 2. THE Royal Institute shall consist of three classes of subscribing Members, namely, Fellows, Associates, and Honorary Associates, and two classes of non-subscribing Members, namely, Honorary Fellows and Honorary Corresponding Members\* and such other classes either subscribing or non-subscribing as may be hereafter established by the Royal Institute.

II. 3. FELLOWS shall be Architects who have attained the age of thirty years and who have been engaged as principals for at least seven successive years in the practice of Architecture. After the expiration of five years from the date of this Our Charter the Royal Institute shall have power to declare that every person desiring to be admitted a Fellow shall be required to have passed such Examination or Examinations as may be directed by the Royal Institute. But in special cases the Council shall have power to dispense with such Examination or Examinations.

### *Revision.*

II. 2. \*Insert " ; a non-Corporate class of Licentiates ; "

II. 3. Replace italicised sentences by :—  
"After the 31st December 1907\* no candidate shall be eligible for election to the class of Fellows unless he is an Associate, or unless and until he shall have passed the examination for admission as an Associate, or being a Licentiate unless and until he shall have passed such special examination as shall be prescribed by By-law. Provided always and notwithstanding anything hereinafter to the contrary, the Council shall have power to elect to the class of Fellows any Architect who is eligible and may appear to them to be desirable to be admitted."

II. 7 (a). New clause :

"Licentiates shall be persons elected by the Council within twelve months of the date of this present Charter in a manner to be prescribed by By-law. Candidates shall have attained the age of thirty years, and at the date of their application for admission shall have been (a) for at least five successive years engaged as principals in the practice of Architecture, or (b) for not less than ten years engaged in the study or practice of Architecture to the satisfaction of the Council."

\* This date has now been extended to that of the passing of the Charter—see MISURUS, p. 105.

*Present Charter.*

II. 9. EVERY Fellow and every Associate and such other subscribing Members as the Royal Institute may hereafter determine shall be entitled to obtain a Certificate\* of Membership subject to such conditions and on payment of such subscriptions or other sums as By-laws may from time to time prescribe, and any such person ceasing to be a Member shall on demand deliver back to the Council his Certificate\* of Membership.

II. 10. A FELLOW may use after his name the initials F.R.I.B.A. and an Associate the initials A.R.I.B.A.

VI. 25. NO person who shall hereafter become a non-subscribing Member\* shall in any case or at any time nor shall any person who shall hereafter become a subscribing Member\* and shall afterwards cease from any cause whatever to be a Member\* or any of their representatives have any interest in or claim against the property of the Royal Institute.

*Revision.*

II. 9. \*For "Certificate," read "Diploma."

II. 9 (a). New clause:

"Every Licentiate shall in like manner be entitled to obtain a certificate of admission to his class, subject to like conditions, payments, and obligations."

II. 10. Add to clause:

"and a Licentiate the affix Licentiate R.I.B.A."

New Section IV. (a):

*EDUCATION.*

"The Council shall, subject to the approval of H.M.'s Privy Council, formulate in a manner to be prescribed by By-laws, and may, subject to such approval, from time to time alter and amend a scheme or schemes for the education of architects throughout the United Kingdom, the Colonies, and India. All persons submitting themselves for the Final Examination for the Associateship after 1912 shall be required as a condition precedent to admission to such examination to have passed through the course of education or to have otherwise qualified themselves in manner to be prescribed under the By-laws."

VI. 25. \*Insert "or a Licentiate."

VII. 31 (a). New clause:

"Licentiates shall be entitled to be present at all meetings other than business meetings and to take part in the discussion on any subjects brought before the meetings, except those relating to the Charter or By-laws or any proposal to alter or vary either or any of them, but shall not be entitled to vote."

*Present By-laws.*

3. *Every* person, desirous of being admitted as Fellow or Associate, must be proposed according to the Nomination Form for his Class. The Christian name, surname, &c., &c.

7. The nomination of every applicant for admission to any class of membership\* must be forwarded to the Secretary† for submission to the Council, who shall inquire into the fitness and qualifications of the applicant, &c., &c.

8. The election of candidates shall (except in the case in which special provision is made in *By-law 9*) take place at Business Meetings only, and in no case until due notice thereof has been given in the circular convening the Meeting.

9. . . . .

Provided always that when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession is eligible and worthy of being elected as a Fellow, the Council shall, during the five years from the date of approval of this provision by the Privy Council, have power to elect him, if in their opinion his work be of sufficient merit. The Council shall also have the power to elect annually to the Fellowship without ballot the President or President-elect of any of the Allied Societies who may be eligible and apply for admission.

*Adopted Revision.*

3. Precede "*Every*" by:—

"Save and except those whom the Council may elect in accordance with the Charter, every"

6 (a). New By-law:

"Every person desirous of being admitted as a Licentiate must be proposed according to the nomination form of his class in manner similar to that hereinbefore provided in respect of Fellows and Associates, but his nomination form may be subscribed by any three members, whether Fellows or Associates.

"Every candidate for admission as a Licentiate who satisfies the Council that he is eligible under the Charter and who is in the opinion of the Council a fit and proper person shall be admitted as prescribed in By-law No. 10 (a). A Licentiate when and as soon as he is otherwise eligible as a Fellow may before the 31st December 1920 be admitted for nomination to that class when he shall have passed such examination as the Council may from time to time prescribe, in which case he must be nominated and submitted for election in all respects as prescribed for other candidates for the Fellowship."

7. \* Insert "or to the class of Licentiates."

† Insert "or in the case of a Colony or India through the local Honorary Secretary if any appointed by the Council." [See *Chairman's opening remarks*, p. 99, for correction required in this insertion.]

8. For words in italics, read "*By-laws 3, 6 (a), 9, and 10 (a).*"

9. Delete this proviso.

10 (a). New By-law [See *Chairman's opening remarks*, p. 99, for alterations to be made in this By-law]:

The name of any candidate whom the Council are empowered under the Charter to elect, either as

*Present By-laws.*

11. When a candidate is elected, the Secretary shall inform him of his election and shall send him a copy of the Charter and By-laws, and no elected candidate shall be entitled to the rights and privileges of membership \* until he shall have signified his acquiescence in the election. No candidate for subscribing membership \* shall be entitled to *such* rights and privileges until he has also signed and returned to the Secretary the Declaration A, B, or C [see pp. 56-57], and has paid his entrance fee or contribution and first annual subscription.

12. Every member \* who has complied with the preceding By-law 11 shall be formally † admitted, at the first General Meeting at which he may be present, by the President, or the Chairman of the Meeting, who, addressing him by name, shall say—  
"As PRESIDENT [or Chairman of this Meeting] I  
"HEREBY ADMIT YOU A FELLOW [or otherwise as  
"the case may be] OF THE ROYAL INSTITUTE OF  
"BRITISH ARCHITECTS." And every such member shall at such Meeting sign, according to his Class, the Register of the Royal Institute.

15. (*By-law dealing with Subscriptions.*)

22. Any member \* contravening the Declaration A, B, or C, † signed by him, or conducting himself in a manner which, in the opinion of the Council, is derogatory to his professional character, or who shall engage in any occupation which, in the opinion of the Council, is inconsistent with the profession of an architect, shall be liable to suspension or expulsion in manner hereinafter provided. Any member \* who may be convicted of felony shall, *ipso facto*, cease to be a member \* of the Royal Institute.

23. Any charge under the preceding By-law 22 preferred against a member \* must be in writing,

*Revision.*

a Fellow or Licentiate, together with the names of his proposers, shall be sent to every member of the Council, and to the Council of any Allied Society of which he may be a member, not less than seven days before the meeting of the Institute Council at which his name is to be submitted for election. Every such candidate receiving the unanimous vote of those present and voting at a meeting of the Council, and in any case receiving the affirmative vote of not less than twelve, shall be declared elected subject to By-law No. 11.

11. \* Insert "or as a Licentiate."

For "*such*" read "any."

Insert "D," and read "A, B, C, or D."

12. \* Insert "or Licentiate."

† Insert "introduced and."

Add at end: "Should the elected candidate be unable to attend a meeting within three months of his election he shall transmit by post to the Secretary his signature to be inserted in the Register."

15. Add new clause:—

"(d) A Licentiate shall pay an annual subscription of one guinea, and for this shall be entitled (a) to receive a copy of the KALENDAR and JOURNAL of the Royal Institute; (b) to use the Institute premises subject to any regulations or restrictions that the Council may make from time to time."

22. \* Insert "or Licentiate."

† Insert "or D, as the case may be."

23. \* Insert "or Licentiate."

*Present By-laws.*

*Revision.*

duly signed, and forwarded to the Secretary, who shall lay it before the Council at their next Meeting. Such charge shall be entertained, considered, and determined by the Council only, but the Council shall have power to appoint a Committee of not less than three of their own body to investigate it, and to report to them thereon. Should the Council find *prima facie* grounds for further proceedings, the Secretary shall send, in a registered letter, to the member\* against whom the charge is preferred, a copy of the same, calling upon him to answer such charge in writing within fourteen days of the date of such letter, and, at their discretion, to appear in person before a Meeting of the Council or of a Committee of the Council. In default of the member's\* compliance with the request in such letter, or if his explanation be, in the judgment of the Council, unsatisfactory, the Council shall have power to decree the suspension of such member\* for a period not exceeding twelve months, or his expulsion. No member\* shall be suspended or expelled unless the Council so decide by a majority of at least two-thirds of those present, and in any case by the vote of at least twelve of those present. If they so decide, the member\* shall be suspended, or expelled, and cease either temporarily, or permanently, as the case may be, to be a member,\* on the Chairman at the next General Meeting announcing such decision of the Council to the members present; and the Secretary shall thereupon communicate the fact by registered letter to such member.\* ¶ Provided always that, should any facts be subsequently brought to the knowledge of the Council which, in their opinion, shall justify them in rescinding their previous decision, they shall have power to do so with the concurrence of at least the number of votes required for the suspension or expulsion as herein provided, and in such case the Chairman at the next General Meeting shall announce the decision of the Council to the members present. § *In any case of such expulsion or rescission, as herein mentioned, the fact shall be forthwith recorded in the JOURNAL of Proceedings.*

By-law 24.

69. Diplomas or Certificates, of such forms and designs as the Council may prescribe, shall be granted to every Fellow and Associate\* who is or shall be entitled thereto *under Regulations to be made from time to time by Resolution of the Royal Institute.*

The Certificate\* of Membership shall bear the Common Seal of the Royal Institute, and be signed as provided by By-law 39. It shall remain the property of the Royal Institute, but shall be tenable by the member† so long as he shall remain a member.† When the holder shall cease

\* Insert "or Licentiate."

§ Insert "In any case of such suspension or expulsion the fact shall be forthwith recorded in the JOURNAL of the Institute, and published in such newspapers as the Council may determine."

§ Insert after "present": "and the Council shall publish such decision in the JOURNAL and the newspapers as before provided."

Omit sentence in italics.

By-law 24. Insert By-law 69 as the first paragraph of By-law 24.

Line 2, insert after "may" the words "from time to time."

Line 3, delete "and."

\* Insert "and Licentiate."

Delete words printed in italics.

\* Substitute the words "Diploma or Certificate" for "Certificate of Membership" and "Certificate."

† Insert: "or Licentiate."

*Present By-laws.*

to be a member,<sup>†</sup> he shall, within seven days of demand being made in writing by the Secretary, return the *Certificate*\*; but should he or his legal representatives fail to do so, or to explain his or their inability to do so to the satisfaction of the Council, the Council are hereby empowered to cancel the said *Certificate*,\* and to sue for and recover the same with costs; and a notice of such cancelling shall be given by the Chairman at the next General Meeting, and shall be forthwith inserted in the JOURNAL of Proceedings.‡

31. In the event of the death or resignation of the President, the senior Vice-President shall become President.

In the event of the death or resignation of the Honorary Secretary, the Council shall issue to every subscribing member within the United Kingdom a notice thereof, containing the name of such member or members whom they nominate for the vacant office. Within two weeks of such issue, any seven subscribing members, of whom the majority shall be Fellows, may nominate to the vacant office any other eligible member, by forwarding his name to the Secretary, accompanied by a written undertaking by the nominee to serve if elected. The Council shall, within one further week, issue to every such subscribing member a voting list for the election, accompanied by a notice convening a Special General Meeting as provided in By-law 60, to be held within not less than seven or more than fourteen days of such notice. Such lists shall be returned to the Secretary at least three days before the date of such Meeting. The Council shall appoint one Fellow and one Associate to act as Scrutineers, and the Scrutineers, whose decision shall be final, shall count the votes, and report the result to the Special General Meeting. The form of voting list and the mode of procedure shall be similar to those provided in the case of the annual election. The member so elected at the said Special General Meeting shall enter forthwith on his office.

In the event of the number of members of the Council being reduced, by death, resignation, or otherwise, below one-half of the full number prescribed in By-law 25, the Royal Institute shall proceed to elect other eligible members to the vacancies: the procedure being the same as herein described for the by-election of the Honorary Secretary.

All members of the Council appointed as herein provided shall remain in office until the close of the last General Meeting in the following June.

*Revision.*

† Insert: "or Licentiate."

\* Substitute the words "Diploma or Certificate" for "Certificate of Membership" and "Certificate."

‡ Add at end:

"and published in such newspapers as the Council may determine."

31. This by-law to read as follows:

In the event of the death or resignation of the President, the Secretary shall forthwith forward to every member of the Council a notice thereof, and at a regular meeting of the Council, held not less than fourteen days after the date of such notice, the Council shall elect one of the existing Vice-Presidents to fill the vacant office until the next Annual Election of the Council, and the Vice-President so elected shall forthwith enter on his office.

In the event of the death or resignation of the Honorary Secretary, the Secretary shall forthwith forward to every member of the Council a notice thereof, and at a regular meeting of the Council held not less than fourteen days after the date of such notice, the Council shall elect one of their members to fill the vacant office until the next annual election of the Council, and the member so elected shall enter forthwith on his office.

In the event of the number of members of Council being reduced by death, resignation, or otherwise, below one-half of the full number prescribed by By-law 25, the Council shall issue to every subscribing member within the United Kingdom a notice thereof containing the names of such members whom they nominate for the vacant offices. Within two weeks of such issue, any seven subscribing members, of whom the majority shall be Fellows, may nominate to the vacant offices any other eligible members, by forwarding their names to the Secretary, accompanied by a written undertaking by the nominees to serve if elected. The Council shall, within one further week, issue to every subscribing member a voting list for the election, accompanied by a notice convening a Special General Meeting as provided in By-law 60, to be held within not less than seven or more than fourteen days of such notice. Such lists shall be returned to the Secretary at least three days before the date of such meeting. The Council shall appoint Scrutineers, and the Scrutineers, whose decision shall be final, shall count the votes, and report the result to the Special General Meeting. The form of voting list and the mode of procedure shall be similar to those provided in the case of the annual election. The members so elected at the said Special General Meeting shall enter forthwith on their respective offices.

*Present By-laws.*

*Revision.*

42. The Council shall annually appoint a Board of Examiners in Architecture, the members of which shall consist of Fellows of not less than five years' standing; &c., &c.\*

All members of the Council appointed as herein provided shall remain in office until the close of the last General Meeting in the following June.

42. Delete "of not less than five years' standing."

\* Add at end: "The Council may also appoint Boards of Examiners in any Colony or Dependency of the British Crown, and shall from time to time make such regulations for their guidance and control as may appear necessary."

*(New By-laws.)*

43 (a). The Board of Architectural Education shall always consist of not less than eighteen subscribing members of the Royal Institute, and such other persons as the Council may on the advice of the Board invite, to formulate a scheme of education as required by the Charter for pupils in architecture, and to report the same to the Council for their consideration, and the members of the present Board are hereby constituted as the first of such Boards. Such teaching institutions as have accepted the scheme of the Board and are recognised by it shall each have the right to nominate a representative, being a member of the Royal Institute, as a member of the Board.

The Council may on the advice of the Board invite other representative persons to act as advisory members to such Board, and the present advisory members are hereby confirmed in their representative position.

Such Board shall, when the scheme has been adopted by the Council, have the supervision thereof, and shall annually report to the Council thereon with any suggestions for alteration thereof.

The Board shall be annually appointed by the Council from a list submitted by the Board. The Board shall have power to elect its own officers from its members, and to draw up regulations for its procedure.

The scheme adopted by the Council, and any variation thereof adopted from time to time, shall be forthwith published in the JOURNAL of the Institute.

No such variation adopted shall in any way prejudice any pupil in respect of any work done by him under the scheme existing previous to such variation.

43 (b). The Council shall be at liberty at any future time to amalgamate into one body the Board of Examiners and the Board of Architectural Education should that appear to the Boards to be desirable, and in that case all the By-laws relating to either body shall, so far as they may apply, take effect with regard to the said amalgamated Boards.

43 (c). Every candidate for the Associateship, after 1912, before presenting himself for the Final

*Present By-laws.*

## XIX. 83. Forms of Declaration.

## A. and B.

"And, in consideration of my having been so elected, I promise and agree that I will not accept any trade or other discounts, or illicit or surreptitious commissions or allowances, in connection with any works the execution of which I may be engaged to superintend, or with any other professional business which may be intrusted to me; that, having read the Charters of Incorporation and By-laws of the said Royal Institute, I will be governed and bound thereby, and by any alteration thereof which may hereafter be made, until I shall have ceased to be an Associate; and that, by every lawful means in my power, I will advance the interests and objects of the Royal Institute."

*Revision.*

Examination shall have either (a) passed through the course prescribed under the scheme adopted by the Council as above, or (b) proved to the satisfaction of the Board of Examiners that he has otherwise been properly trained as an architect.

## (New By-law.)

62 (a). The subject of a resolution which has been submitted to a General Meeting and duly considered shall not be again submitted during the same Session without the previous consent of the Council.

## XIX. 83. Forms of Declaration.

## A. and B.

After the Preliminary Statement the Forms to read as follows:—

"And in consideration of my having been so elected I promise and agree that I will not accept any trade or other discounts, or give or accept any illicit or surreptitious commissions or emoluments in connection with any works the execution of which I may be engaged to superintend, or on which I may be employed under any other person or with any other professional business which may be entrusted to me. I further promise that I will not have any interest in any contract or in any materials supplied to any works on which I may be engaged, and that I will not advertise my name either in any newspaper or otherwise. Lastly I declare that I have read the Charter and By-laws of the said Royal Institute, and will be governed and bound thereby, and will submit myself to every part thereof and to any alterations thereof which may hereafter be made until I have ceased to be a member; and that, by every lawful means in my power, I will advance the interests and objects of the said Royal Institute."

## D. Form to be signed by a Licentiate.

"I, the undersigned, .....having been elected a Licentiate of the Royal Institute of British Architects, do hereby declare that I have been for not less than ... years engaged ..... that I am ... years of age, that I am not engaged in any other avocation than that of an architect, and in consideration," &c., as in Forms for Fellows and Associates.

Mr. G. A. T. MIDDLETON [A.] had given notice to bring forward the following amendments to the Revised Charter as proposed by the Council:—

"That the Council be instructed to formulate a new preamble suitable to the changes which the King is to be asked to make in the Charter."

I. 1. For "the Original Charter" read "the Charter granted by Her Majesty Queen Victoria in the fiftieth year of her reign." (*In two places.*)  
and

After "hereinafter provided" insert "except that Associates shall have the right to vote on an equality with Fellows respecting the preparation of such By-laws."

II. 7a. Read :—

Licentiates shall be persons elected by the Council at such times and under such conditions as may be hereafter prescribed by By-law.

II. 8. For "as a Member" read "for any class of membership."

New Section IV. a. After "Colonies" insert "Dominions and Dependencies."

VI. 22. Read as follows :—

"The power and authority to sell, alienate, charge, vary, or otherwise to dispose of the whole or any part of the property of the Royal Institute shall be exercisable by . . ."

VI. 23. After "as amended by" introduce "The Charter granted by Her Majesty Queen Victoria in the fiftieth year of her reign and by."

VI. 25. For "whatever to be a Member" read ". . . a subscribing Member."

VII. 27. After "Fellows" insert "and Associates."

VII. 28. Delete.

VIII. 34 (h) After "Colony" insert "Dominion."

VIII. 35. After "the Original Charter" insert "and the Charter granted by Her Majesty Queen Victoria in the fiftieth year of her reign."

"That the Council be instructed to formulate a New Schedule in conformity with the amendments now made."

DISCUSSION.

Mr. EDWIN T. HALL, *Vice-President*, in the Chair.

THE CHAIRMAN, in moving the adoption of the Council's proposals, called attention to one or two slight verbal errors in the text which required correction. On page 8 [now page 93], in the right-hand column, after the word "Insert," the word "and" should be substituted for "or." That meant that all applications must be sent to the Institute Secretary, and in the case of the Colonies they must be sent to the Secretary through the local Honorary Secretary. Then the intention of Clause 10 (a) was to get the views of local Societies on any local man; but it had been pointed out to the Council that a man might be a local man and might apply, but he might not be a member of an Allied Society. Therefore the Council proposed, in the fifth line, after the word "and," to insert "if he be practising out of London"; and in the following line, alter the word "Society," to delete the words "of which he may be a member" and substitute "of the province in which he resides." It was a merely verbal correction; no question of principle was involved.

These corrections having been put to the vote and adopted, the CHAIRMAN called attention to the amendments of which Mr. G. A. T. Middleton [A.] had given notice. Some of these amendments, he pointed out, were merely textual corrections; but when the document had passed the Institute their solicitor would be instructed to draw up a form of Charter; and not only would these textual corrections have to be made, but there would be a considerable number of others, not in the least degree involving any questions of principle, but of necessity arising in a new document; for instance, "the present Charter," as it now exists, would become "the late Charter," &c., &c. Therefore he did not propose that the time of the Meeting should be taken up in discussing mere trivialities. Some of Mr. Middleton's amendments, however, were not trivial, but went to the very root and essence of the matter. He should therefore ask Mr. Middleton to deal with his amendment of Clause II. 7a and of Clauses VII. 27 and VII. 28.

Mr. J. MACVIEAR ANDERSON [*Past President*]: May I ask what becomes of the insertions suggested in Clause I after the words "hereinafter provided"?

THE CHAIRMAN: Mr. Middleton has withdrawn that.

Mr. G. A. T. MIDDLETON [A.] said he quite agreed with

Mr. Hall as to the advantages of taking the two significant points, rather than waste the time of the Meeting over a great deal that was insignificant and which the Institute solicitors would attend to. He should like to express his thanks to the Charter Revision Committee for having accorded him two long interviews to discuss the various proposals he had laid before them. As regards Clause II. 7a he had felt all through that the Licentiate class was an unnecessary one. He had been opposed to its formation from the very beginning, and had taken every opportunity of fighting against it. About a month ago he had issued a series of questions to Associates. One of those questions was: "Should the provision for the proposed class of Licentiates be held in abeyance until the terms of the Bill for regulating the profession of Architecture had been passed into law, and the class be then utilised as a registering class for practitioners other than members of the R.I.B.A.?" That was a double question and consequently not perhaps a very well worded question. Partly perhaps on that account, of the 163 answers he received altogether a considerable number failed to answer that question. The majority—a very large majority, 89 per cent.—of those who did answer it were in the affirmative.

THE CHAIRMAN: That is to say, about 89 per cent. of one-seventh of the Associates.

Mr. MIDDLETON: The question was answered by 125. Eighty-nine per cent. of those.

THE CHAIRMAN: That is one-tenth. There are 1,246 Associates. Eighty-nine per cent. of one-tenth.

Mr. MIDDLETON: I only take the percentage of those who answered. I am not trying to bolster up my case at all. From the papers returned I gathered that there was a very general feeling of hesitancy as to whether it was advisable to have the class at all.

THE CHAIRMAN: Your amendment does not challenge the question of the advisability of a class of Licentiates. It is as to the machinery for dealing with the Licentiates. You must kindly address yourself to the amendment.

Mr. C. H. BRODIE [F.]: On a point of order, the Institute has decided that the class of Licentiates shall come into existence. Mr. Middleton is entirely out of order in discussing the question.

THE CHAIRMAN, in reply to a question, stated that the

Institute had decided upon the creation of a Licentiate class in April 1906 and in March 1907 by the unanimous vote of the General Body.\*

Mr. MIDDLETON said he recognised that, and that was the reason he had worded his amendment in the way it stood. The object of his amendment was to give plenty of time for further consideration as to what the conditions should be; but, most important of all, his idea was that although they should form the class now, with the possibility of using it eventually, when a Bill was passed, as a compulsory registering class, they should not proceed to form any By-laws relating to that class at all, but leave the class in abeyance until such period. At present Associates had only the right to vote upon the Charter, and therefore only the right to move motions upon the Charter; consequently he was confining himself to the Charter: he therefore moved that the "Licentiates shall be persons elected by the Council at such times and under such conditions as may be hereafter prescribed by By-law."

Mr. H. HARDWICKE LANGTON *A.* seconded the amendment.

Mr. J. MACVICAR ANDERSON [*Past President*] said that the words proposed by the Council were in strict conformity with the Charter. The Fellows and Associates were described, and the Licentiates had now to be described, in words applicable to their case. He could not see any reason for disturbing that wording or supplementing it in the way proposed. Moreover, it had been definitely settled by the Institute that there was to be a class of Licentiates, and, as the suggestion had been made, it was no use half dealing with the matter. It was much better to stick to the words originally proposed by the Council, for which he should certainly vote.

The CHAIRMAN pointed out that the Institute had decided that the Licentiate class was to be temporary; it was only to be open for twelve months after the passing of the Charter, and then it was to be closed. The object was to safeguard the interests of the Associates, and not to allow a class to be opened for ever which would conflict with their interests, and do them perhaps a great deal of harm.

The amendment having been put to the vote was declared lost.

The next amendment—that relating to the power to dispose of the property of the Institute (Clause VI. 22)—Mr. Middleton withdrew.

The amendment to Clause VII. 27 Mr. MIDDLETON said he thought would be considered the most important he had put upon the agenda. His amendment was to introduce the words "and Associates" in No. 27, so that Associates should have an equal right with Fellows to be present and to vote upon *all* subjects. No. 28 might then be deleted as unnecessary. The present position of affairs had a very considerable amount of absurdity about it. It was perfectly clear, as had been proved, that the Associates had the right to vote upon matters of the Charter, and they were in fact going to vote upon this particular question. The Charter was superior to the By-laws. How was it that they had the right to vote upon that which was superior, while the right to vote upon that which was inferior was denied them? There might have been some reason twenty years ago, when this Charter was formed, for not giving the Associates the full power that they were asking for now; but twenty years had made a great difference in the *personnel* of the Associates; the standard of the class had altered entirely. In those days very few were examined men; now the great majority were. It could not be said either that any great proportion of them were men incapable of forming a just judgment on such questions as were likely to be brought before them in connection with the By-laws. Looking round that evening he did not see any very young hinds whom they

would be afraid to trust, and if there were any they must be very few. There must of course be some between twenty-two and twenty-five years of age, and having that in mind he had put three questions on By-laws to see whether the Associates would be able to come to a just judgment upon such points. One of the questions was whether it would be wise to raise the age for admission of Associates to twenty-five, allowing them to pass the examination earlier, but not allowing them to take up their Associateship until they were twenty-five, as was done in the Institution of Civil Engineers. A very large proportion indeed of his answers—117 to 28—were favourable to that. He also put other points which would come before them if they had the right to vote upon By-laws. One of those was as to the Council's representation. He suggested that there should be one Associate in every three ordinary members of the Council. That suggestion seemed to have met with very general acceptance. That would mean eight out of twenty-four, instead of the present four out of twenty-two; but a certain number of his correspondents seemed to have the idea that Associates, being enormously in the majority of the whole of the Institute, ought to have representation in proportion to their numerical strength.

Mr. R. STARK WILKINSON [*J.*] asked how many answers Mr. Middleton had received to his first question—viz., whether the Associates desired at once equal rights with Fellows?

Mr. MIDDLETON said that his question was as to whether they should have the right to vote upon By-laws. There were 128 affirmative and 9 negative on that question. Many did not answer. The other question was as to the right to take a poll of members on all important subjects after proper discussion. There, again, his answers were 86 per cent; that is, 124 to 20. No question was answered by everybody. Personally he felt that a better solution might be the amalgamation of the Fellows and Associates into one class, sweeping away all the divisions and differences that had existed so long. That, however, was not his proposal. His amendment was that the Associates should have the right to vote upon By-laws. The time had fully come to make such a change as this. The Associates were of a different class from what they used to be; they were responsible men, and perfectly capable of coming to a just judgment upon any matter connected with the By-laws.

Mr. R. J. ASHALL, M.Inst.C.E. [*J.*], seconded the amendment. It seemed to him, he said, to carry out the threefold motto of Liberty, Equality, and Fraternity. The Associates had not been provided with that liberty which in any well-organised body a man was entitled to, and they should have the opportunity of objecting that one set of members of the Institute should rule with a somewhat iron hand another set. In the second place they were denied that fraternity which a powerful body such as theirs should possess. The Associates were not taken into the confidence of the seniors on the question of the government of the Institute. Upon some points they were considered of intelligent importance—when, for instance, it came to a question of guineas and the subscriptions became due. Then they were welcomed with open arms. In the third place they were denied equality. He could not see why any member of the Institute should be looked upon as inferior in intelligence to any of the others. He had much pleasure in formally seconding Mr. Middleton's motion.

Mr. R. STARK WILKINSON said that, as one of the oldest Associates, he differed entirely from Mr. Middleton. He spoke now on behalf of the minority who signed that first question. He did not think that the Associates should want to put themselves on an equality with the Fellows. As a rule they were younger men, and many of them were not in practice. Surely the Fellows ought to have a firmer and a higher status in the Institute than the Associates. He thought Mr. Middleton's amendment showed rather a

\* JOURNAL, 7th April 1906; *ib.* 9th March 1907.

greedy disposition on the part of those who supported him. What was the use of being a Fellow of the Institute if some distinction were not made? He thought that Associates should wait patiently until they had been in practice for a certain number of years to become Fellows and put themselves on an equality with the seniors. It was scarcely reasonable to wish to be put into the leading position of Fellow at a moment's notice.

Mr. MAURICE B. ADAMS (F.) said he did not believe by any manner of means that the Associates as a body wanted this power. He thought that in the interests of the Associates, much more than in the interests of the Fellows, what was claimed on their behalf was a very great mistake. Members must consider the welfare of the Institute as a whole—consisting as it did of two classes, Fellows and Associates. There would be for one year an admission to a third class, but there was no need to consider that at the present moment. He said to the Associates must sincerely that they were playing the wrong game altogether. He did not believe, if the Institute were polled from one end of England to the other, the result would at all correspond with the somewhat limited return which Mr. Middleton had placed before them. What would there be left for the Associates to look forward to if the Institute was to be practically reduced to a society of Associates? It was perfectly true that the status of the Associates had improved, but whom had they to thank for that? Surely the class of Fellows. They had been doing all they could—and he spoke feelingly upon that point—to improve the education of the young men in order to bring into being a set of competitors with themselves, to the Fellows' own individual disadvantage. For any member to say that there had been no fraternity and no equality—that might be described as a "terminological inexactitude" of the grossest kind. He had been a member of the Institute for a very great many years, and he had never heard, even in the old Tory fogey days, of an Associate being treated with anything but consideration and respect. He put the question before them strongly, as he believed a great many had come there expressly to support Mr. Middleton's amendment; therefore he urged them first to consider in their own interests, quite apart from the Fellows, what this revolution was going to do for them. For his part he could see that it would do them no good. He had had some opportunity of hearing what Associates had said who were not altogether prepared to take a very prominent attitude on the question. Many of them held positions which precluded them from taking a very distinctive position; but he was quite sure of this, that it was only the Associates for the most part who held offices in County Council places, surveyors' offices, District Council offices, and Borough offices—men who were occupied more or less as assistants—who were wanting this voting power. On the other hand, he could not think that men who were in practice—who were, he would not say engaged in the more legitimate form of business, but in the more accepted form of the architect's calling of independent practice—if they supported Mr. Middleton, he could not see what they were driving at by encouraging this proposal; and if he could do anything to prevent it in their own interests he would throw all the force he had in that direction. It was precious little that the Fellows had left over and above that which was enjoyed by the Associates; and if they were all to be brought down to the level of the Associates—which was practically what it would come to—the Fellows would be overwhelmed by the Associates. There were many men who remained Associates who certainly ought to take up the higher position. Whether they failed to do this for financial reasons or not he did not know, but many men were doing a large practice of a kind and yet were content to remain Associates. That was not at all in accordance with the idea which the existence of Fellows and Associates was

intended to provide for. Such men should come up for the full membership; then they would have the chance of going on to the Council and be enabled to exercise the influence they wished. He begged to oppose as far as he possibly could what Mr. Middleton had suggested.

Mr. J. MACVICAR ANDERSON (F.) said he hoped that all the Associates present would respond and appreciate the most sensible observations to which they had just had the pleasure and privilege of listening. His immediate object in rising was to say that, as one of those who had a good deal to do with the revision of the present Charter, he could from recollection distinctly assert that one subject that occupied their attention to a very large extent was this of the privileges of the Associates. They had dealt with the Associates in what was considered a very liberal manner. Some were of opinion that they had gone too far; but the general opinion was that they had acted liberally and fairly by them. To adopt the recommendations made in the amendment before them seemed to him simply absurd. What was the object of having two classes—Associates and Fellows—if they were to be put on precisely the same basis? Mr. Middleton had drawn attention to the fact that there was nothing in the words of the Charter precluding Associates from dealing with the Charter, but only with the By-laws. That, technically, was so; but it never for one moment entered into the thoughts of those who were interested in the Charter at the time that Associates could deal with the Charter; it was too absurd to think of. If, however, there was anything in Mr. Middleton's contention, the simple and proper course to pursue was not to adopt his recommendation, but to put into the clause of the original Charter the word "Charter" as well as "By-laws." That would be a step in the right direction. He should distinctly oppose the amendment.

Mr. J. NIXON HORSFIELD (A.) asked permission to submit the point of view of a new member, the point of view of a quite young lad in practice. It was with great regret that he saw Fellows of the Institute fighting tooth and nail against what one might call in common parlance the backbone of the profession. The Council had asked for an expression of opinion from that Meeting, and it had been ruled from the Chair that the Associates had the right to vote on that expression of opinion. If, then, their opinion was worth taking, why were they not to have the right to show the courage of their convictions by a vote? They were not petitioning; they had the right to alter the Charter, and they proposed to do it in such a way that they should have a right to vote on an equality. The members who had just spoken had addressed their remarks principally to the Associates; he would address himself to the Fellows. He would ask them if they were afraid of the Associates. The Fellows were actual leaders by reason of their seniority, their skill and attainments, and their election to the Fellowship. The Associates were loyal to them, and would continue to be loyal to them; they recognised that they must have leaders, and their leaders were the Fellows; but they wanted to have the right to support their opinions by their votes. They had no desire to give an expression of opinion which might be overruled by their leaders. One speaker had appealed to Associates to vote against themselves for their own good. But Associates would vote for themselves, and Fellows might rely upon loyalty where there was not coercion. He hoped that Mr. Middleton's resolution would have the support of every member of the Institute.

Mr. H. HARDWICK LINGSTON (A.) said that the last speaker had struck a chord in the hearts of those who remembered the fight of some five-and-twenty years ago in wrest from the Fellows the right of the Associates to vote, and the Associates won. In those days the Associates were not even allowed to vote in the election of members. He asked the Meeting to take the idea presented to them by the last speaker; they did not know the feeling of

loyalty the Associates had for the Institute. He hoped the senior body would be generous now as they had been on the previous occasion. They saw the reason for giving Associates the vote then, and he hoped they would do it again. It would certainly not be to their own detriment.

Mr. GEORGE HENNARD, F.S.A. [F.], said he very truly sympathised with the Associates in what they felt in this matter, and he thought they had some cause for grievance. To his mind there was no doubt that the Council in the past had elected over their heads members of the profession as Fellows who had not held, and did not hold, anything like the architectural qualifications that many of the Associates possessed. The question, however, raised by Mr. Middleton appeared to him to be one that was not worthy of really serious consideration. In the first place he was proposing that the Associates and the Fellows should be on an equality, with the exception of the fees and the representation on the Council. If the Associates had equal powers with the Fellows of voting on the By-laws, it would be quite possible for them to vote more than half the seats on the Council to the Associates, which would be a real reversal of the proper and legitimate position of affairs in the Institute. There was no doubt that the Fellows were, and ought to be, the leaders. The Fellows numbered something like 900, and the Associates about 1,300. To give equal voting power under those conditions would be to put the leaders, as they had been called, at a disadvantage. His sympathies, however, were very strongly with the Associates, and he thought they should have some voice in framing or altering the By-laws, and if that were the general view of the Meeting he thought the Associates should be granted the vote, and that, having regard to the proportion of Fellows to Associates, the Fellows ought to have two votes in place of their one. He suggested that the difficulty might be got over in that way, and Associates would then have some voice on matters connected with the By-laws.

Mr. W. HOWARD SETH SMITH [F.] said he did not think anyone who knew the position he had taken up with reference to the Registration question would doubt that he was thoroughly sincere in his wish to carry through the great project of reform which had been discussed so continuously for the past two years and had been already carried to a great extent—i.e. the compromise between the extreme Registration position and that which appeared to be within the range of practical politics—the enlargement of the Institute on the lines now laid down. Many of them may have read the statement of a great statesman last week that nothing was so prejudicial to reform as revolution. Mr. Middleton's was a most revolutionary motion: it cut at the very root of the constitution of the Institute, and, to say the very least, it would be a hazardous experiment. Therefore, as one who had always advocated reform and an enlargement of the powers of the Associates as far as possible, he was bound to oppose it. The influence of the Institute had grown immensely, as well as the qualification of its membership, and it now occupied a very important position, as was shown by the applications they received from all parts of the country for decisions, appointments, and references of all kinds. That position had been attained under its present constitution, and that constitution had been shown to work very fairly well. Nothing proved the liberty and the great power that the Associates possessed more than the proposal for which the present meeting was called—viz. to pass into law this scheme for some kind of registration. They were closing the profession gradually; it was a step in the direction which some of them who were looked upon as revolutionists a few years ago felt must be taken, and that the proper body to pass it was the Institute; and they rejoiced that some sort of compromise had been arrived at which bound together the various classes and interests of their great Institute, and that there

was a working scheme on the *tapir*. They had been working at it for years and years, and it was nearly matured; but if they were to pass this resolution of Mr. Middleton's he was perfectly convinced that that scheme would be wrecked. He would put to Mr. Middleton what his particular purpose was that evening—whether it was on the broad ground of giving the Associates on all subjects full voting power in connection with By-laws and anything else, or whether he felt that the scheme—the modified Registration scheme, the alteration of the Charter, the obtaining of the Bill and the election of a new class of membership—was not satisfactory from the extremist point of view, and, therefore, he thought that the Associates would vote against that if they had this power. Whether that was his purpose or not he did not know, but he would only say that it was very inconsistent with the facts and the history of the movement. It was Mr. Middleton's motion which produced the measure they had met that evening to pass: it was he himself who proposed it, and it was the moderation of the Fellows, led by Sir Aston Webb, which brought about the present compromise, and on which they who felt very strongly that the profession generally should be closed gave way. The other side had met them generously and proposed that the Institute itself should become a kind of Registration Society, bringing in the whole profession and making the Institute truly representative of the profession. Should this scheme not be successful after three or four years' working they would then be in a position to promote a Bill to close the profession. It seemed to him that that was a wise, tentative scheme which appealed to all parties, although it might not be satisfactory to everybody. The progress which had been made under the present constitution appeared to him to work well, and the Associates' influence was very paramount. Whenever they had a grievance or whenever they wanted to carry a great measure by a two-thirds majority in the Institute, surely they could make their voices heard and their influence felt, as they had full deliberative power and voting power except in the modification of the By-laws. The Institute was the University of Architecture of the country, and the Associates were the graduates in theory and the Fellows were the graduates in experience. That point of experience was a very important one. He felt that they should be running a terrible risk, not only to the scheme which after enormous care and pains had been matured, but that they should infallibly break up the Institute into new sections if this were carried, and all the trouble they had been at for so many years to bind the Institute into a really representative body would be rendered futile. He therefore voted against the motion.

Sir ASTON WEBB, R.A., *Ex-officio President*, said he was sorry he must begin with a regret that the magnificent meeting that evening was not engaged in something more useful to the art of architecture than the discussion they were engaged in. He should like to have seen the meeting discussing and supporting Mr. Burns's Bill for the improvement and development of their towns and cities; or he should like to have seen it discussing some large scheme of education which would be of use to their younger men when they came into the profession; or he would like to have seen them really seriously engaged in trying to see how their ancient buildings might be longer preserved to them—anything, in fact, that had more to do with architecture than the present question. He had worked for many years at the particular matter now before them, and he was bound to say he was rather weary of it. It seemed as if they never could get to the last word over it. It reminded him of a story he heard the other night of a small boy who had lost his father, and on being asked what his father's last words were the boy replied, "He didn't have no last words, sir. My mother was with him to the very last!" We

apparently were to have no last word, and these troublesome amendments were to be with us to the very last. He (Sir Aston) confessed that if he had had the honour of occupying the Chair that evening he should have had no hesitation whatever in ruling this amendment about Associates out of order altogether. They had met for quite a different subject. The Institute had passed what was intended to be a compromise on the matter of registration. Some thought they had gone too far in one direction, others that they had gone too far in another; but they met and came to a compromise which was thought a reasonable one for the Institute. The proposal was adopted by the Institute; the Council were asked to put it into form and to bring it up for the approval of the General Body. Then, at the very last moment, members had an entirely different subject sprung upon them. They were not discussing the compromise; they were discussing an entirely different thing—the question of the admission of the Associates to equal voting rights with Fellows. He felt sure that the members of the Institute could never allow a temporary obstacle of that sort to upset the whole fundamental basis of the Institute. If that had to be done, it must be done after due discussion and consideration by everybody—not by a vote at one meeting of this sort sprung upon them at the last moment. He had no hesitation in saying that they were not prepared to consider duly and properly such an amendment as that, and he hoped for that reason that it would not be accepted. Supposing for the moment that it were accepted, what would be the position of the President and the Council? It said at the end of the notice paper that the Council were to be asked to take this scheme back. Were they going to revise it on this line? How could the Council do that when they had told members that they did not agree with it; that they did not think it was for the good of the Institute that an Associate should have this voting power until he had been seven years in the Institute and had become qualified to be a Fellow? That was not a very long time to wait. He himself had waited nine years; then he came in as a Fellow, and he had had a vote ever since. As to the member who was proposing this amendment, he had taken the trouble to look up his name in the *Kalendar*, and found that he had been 25 years an Associate! What would be the position of the Council? Were they weakly to prepare a scheme they did not agree to? When it came up what would happen? Someone would propose that the Associates should not have the vote in question; then it would go on and on backwards and forwards, and the unfortunate little friction, which was not really a serious thing, would go on and on, and would prevent the great work the Institute ought to be doing instead of discussing matters of this sort. Such a situation was not worthy of the Institute. What was the alternative if the Council did not adopt this proposal? The only alternative was for them to go out, and then he was afraid unfortunately the By-laws would not allow the mover of this proposal to be President—although no doubt in time he might alter the Charter and By-laws and become President, with four Associates as Vice-Presidents, and as many of the rest as were available as the Council. Would that be a good thing for the Institute? He was not personal at all, but it certainly would not be a natural thing. If, however, they were to give power to the Associates, they must also give them responsibility. Power without responsibility was not a good thing in any walk of life, either for an architect, or for an Associate, or anybody else. Therefore if Associates were to be given the power to vote on the By-laws they must be given the responsibility of having to carry out their proposals. They could not expect a body of men who did not agree with them to carry it through for them. Therefore it seemed to him obvious on the face of it, that, looked at in the most cold-

blooded way, as he was trying to look at it, it would not work for the Associates to be granted this power. The Institute had laboured long over this Registration matter, and they had at last come to a compromise: some thought it went too far one way, and others too far the other, but for the good of the Institute, for the release of this troublesome question, they had all agreed to it. They had come that evening to approve of the alterations made in the Charter with a view to carrying it out, and somewhat to extend the legal position of members of the Institute. That was a very great step towards what many had been anxious for; it was giving a very great deal; and now was the opportunity. If that opportunity went by this evening it would not occur again for a long time, and the Institute would be set back many years in its work, which was just beginning. A few days ago a distinguished man asked him if they had managed to join together the whole profession within the Institute, or whether a large number remained outside. He (Sir Aston) informed him that they had to a very great extent united, and that there remained outside hardly more than perhaps half-a-dozen distinguished men whom they all wished would join them. "Then," his friend remarked, "you will go ahead; you will have new premises; you will have some influence, etc." He (Sir Aston) assented, and ventured to express his belief that they had some influence already. If his friend saw them that evening squabbling over a little thing of this sort, he was afraid he would shake his head sadly. He hoped that for the good of their art and for the good of the Institute they would unanimously decide to proceed with those proposals which the Council had so carefully prepared, and to leave the other question altogether on one side.

Mr. W. H. DAVIES (J.) said he should like to point out another aspect of the case before the vote was taken. Assuming that the Institute would remain as at present with the power as to the By-laws entirely in the hands of the Fellows, next year they might have 5,000 Licentiates in the Institute, and it must be remembered that their term as Licentiates was not for one year only—it was a permanency. It was true that the door would only be open for one year, but the class was for the term of their natural lives. Associates might have to fight against this class of Licentiates. Supposing these 5,000 men—many of them experienced men—admitted to the Institute, the Fellows would naturally think that it was only fair that they should have the vote; there was nothing to stop them altering the By-laws to give Licentiates the vote, and in time there was no reason why the Associates' class should not be put back into a decidedly third place. He had been connected with one institution in which exactly the same process had taken place.

THE CHAIRMAN said he felt almost disinclined to add anything to the weighty words which had fallen from Sir Aston Webb, but he felt the responsibility of being in the Chair that evening, and he hoped they would hear with him for a few moments. With reference to the warning given by the last speaker, the picture he had drawn was a fancy one, and a perfectly impossible thing, because the proposal was that, under the Charter, the Licentiates could not have a vote; they were not corporate members of the Institute, and therefore it followed that neither the Fellows nor anybody else could at any time give them the right to vote. They could never vote so long as the Charter stood; they could never vote if it were desired to amend the Charter, and therefore the expressed fear was a mist in the air. He would most earnestly urge the meeting to adopt the advice Sir Aston Webb had given them in preference to that of Mr. Middleton. The first speech he (the speaker) made in that room was on the Charter in 1887. He regretted to say that he spoke for thirty minutes, and a main feature of that speech was one urging that the Associates should be given votes. It was a speech made after the late

Professor Kerr had obtained a vote rejecting the Council's draft of a new Charter which gave that vote. After that rejection he had the great honour of opening the adjourned debate, and at that sitting they carried the Charter as proposed by the Council absolutely, he thought, without a dissentient vote, and giving the Associates the proud position they at present held. What was the Associates' present complaint? What was the defect they were seeking to remedy? From the date of the present Charter onwards the education of architects had advanced; the status of Associates had advanced; the position and influence of the Institute had advanced by leaps and bounds until from a comparatively unknown society there was scarcely, as had been pointed out by Mr. Seth-Smith, a public body in England that did not on occasion come there for advice and guidance. Was that a thing to be lightly thrown away? Did they suppose these public bodies came there because they thought they were coming to an Institute governed by a junior body who had not necessarily great experience, or did they come there because they saw at the head of that body men of experience, men who had knowledge of the world, men who were elected representatives, and men chosen by the Associates—on equal terms with the Fellows—to represent them as the governing body of the Institute, and to stand before the world as the leaders of the representative institution of the architects of the country? That was why the influence of the Institute had advanced. Mr. Middleton was light heartedly asking them to throw that to the winds. He was asking them that the predominant power should be given to those who were Associates, who were the majority of voters at the Institute. It was perfectly legitimate to raise the question, but they must show some reason why it should be given. There had never been a single case where a representation made properly, as Mr. Maurice Adams said, by Associates had not received the most earnest consideration of those who were their elected representatives; and they had given effect to it whenever it had been, in the judgment of those who had no other interest but the Institute's to serve, for the benefit of the Institute to do so. What was the Associates' grievance? They had been told in beautiful language that there was no "liberty, equality, or fraternity." But there was liberty for every Associate to compete with every Fellow, and there was nothing in the Charter or By-laws which made one man as a man superior in the least degree to the other. There was not a Fellow in the Institute who was desirous of making any inequality. Then about fraternity. He knew amongst his personal friends as many Associates as he knew Fellows. He was sure that every Associate who knew a Fellow felt that he always met him as a friend and an equal, and the only difference between them was that if the Associate had not quite as much experience as the Fellow, the latter placed his experience freely and without reward at the service of the Associate to help him. Associates won competitions against Fellows, and the Fellows did not feel jealous, but were delighted to see that architecture was advancing. Having made these observations, he wanted to ask them, if the majority who were Associates had the right to vote on By-laws, what was to preclude them, if they thought fit, from returning a whole Council of Associates? It was the practice of every learned Society for the men of the greater experience to be the depositaries of this right of voting on the By-laws; it was in the interest of the junior class that the men of greater experience should be in the forefront, so that if they had to go to battle, as they constantly had, in their interests, they should be able to talk with the enemy at the gate, whoever he might be, with something like equality. That being so, he asked them with the greatest confidence to follow the guidance Sir Aston Webb had given them. He asked them not to be led away by Mr. Middleton's suggestions, which

however honestly meant—and he did not doubt their honesty for a moment—were not wise; they were not the result of the experience of a man who had been long in practice; they were not such as it would be prudent in the interests of the Institute for them to adopt; and he seriously hoped that when they voted they would vote with a grave sense of responsibility; that they would help the Institute to get this new scheme off their minds, and to turn their thoughts to something that was infinitely more interesting, viz. the advancement of their art.

Mr. G. A. T. MIDDLETON [A.] said he had not been well lately and hardly felt capable of answering the points at any length. He should, however, just like to answer two to three points that had been raised. Sir Aston Webb, for instance, said this was not the time to press the matter. The opportunities, however, did not come often for revising the Charter. It was over twenty years since the last opportunity came for any material alteration; the Associates improved their position then. If they did not take the opportunity that evening, it would practically be gone for the rest of their lifetime. The present was practically the one opportunity they had. Sir Aston Webb said they should see-saw backwards and forwards; but on this point there would come the confirmatory meeting a fortnight or three weeks hence, when it would be confirmed and over. Mr. Seth-Smith had rather confused the two amendments he had moved, the one which had already been negatived, and this which was now before them—for he talked a good deal of the effect of this upon registration. This, he took it, was an entirely distinct point from registration; the two things were not bound up with each other; the Associates' position in the Institute was a different matter. He had spoken on general grounds; it was on that ground he was working to advance the Associates' position by giving them such rights to vote at the Institute meetings as he considered they ought to have. Another thing Mr. Seth-Smith had said which, accurately as it was worked, and accurate as it was in its intention, might have given an inaccurate impression; it was not he (Mr. Middleton) who originated the compromise. He perhaps had made the original motion which led to the formation of the Committee which produced the compromise, but he had never liked the compromise. He himself was an ardent Registrationist, and should continue to go forward to that end. But the question before them was not registration. The question was, Should the Associates have the right to vote upon alterations, &c., upon the By-laws equally with the Fellows?

THE CHAIRMAN, rising to put the amendment, said that the point before them was that the Associates should have the right under the Charter to vote upon the By-laws, that is to say, should be equal in every respect as regards responsibility to the Fellows.

Upon a show of hands 25 voted for the amendment, and an overwhelming majority against. THE CHAIRMAN declared the amendment lost.

THE CHAIRMAN: Now there is the substantive motion; I put to you the original motion—viz., "That this Meeting do approve the proposals of the Council in respect of the Charter and By-laws as set out in the printed paper," with the slight verbal amendments I have made.

Mr. A. H. IRIO [F.]: Before that motion is put may I ask if we may discuss any further points. There are some points one has not had an opportunity of going into before. It is most important that ample opportunity should be given, in the case of foreign or colonial candidates, that members living in those colonies should have sufficient notice to express an opinion before the elections come on.

THE CHAIRMAN: As to elections, with very great regret I am afraid it is impossible to take anything as an amendment to this to-night, no notice having been given of it.

If you will kindly send to the Council any verbal alteration that does not affect anything in the nature of principle here it shall receive consideration and be handed to the solicitors to be dealt with in the draft when the text of the Charter is drawn.

Mr. HEN [handing up paper]: I have put them all in writing, thinking that might be the course suggested.

Mr. H. HARDWICKE LANGSTON [d.] wished to bring forward an amendment respecting the undertaking to be given in the revised Declaration that members should not advertise their names in newspapers, &c.; he was rather in doubt as to what was meant by those words, and the President had promised him an opportunity of bringing the matter forward.

THE CHAIRMAN ruled that the amendment would be out of order, as notice of the motion had not been given, as required under the By-laws.

THE CHAIRMAN then moved that the proposals of the Council as printed, subject to the drafting amendments that had been mentioned, be approved.

On a show of hands the motion was carried, against one dissentient.

THE CHAIRMAN further moved that the Council do apply to His Majesty to grant a new Charter embodying the revisions now approved of the existing Charter.

The motion was carried as before on a show of hands, against one dissentient.

THE CHAIRMAN finally announced that the Council would at once instruct the Institute solicitors to draft a new Charter with all necessary textual alterations, to give effect to the revisions now adopted.

THE CHAIRMAN, in reply to Mr. MIDDLETON, stated that there was no necessity for further confirmation of the proposals for alteration of the Charter.

### MINUTES. III.

At the Third General Meeting (Business) of the Session 1907-08, held Monday, 2nd December 1907, at 8 p.m. — Present: Mr. Edwin T. Hall, *Vice-President*, in the Chair; 93 Fellows (including 22 members of the Council) and 93 Associates (including 1 member of the Council) — the Minutes of the General Meeting (Ordinary) held 18th November 1907 [*ante*, p. 80], were taken as read and signed as correct.

The Hon. Secretary announced the decease of William Alexander Longmore, *Fellow*.

The following members attending for the first time since their election were formally admitted by the Chairman: — viz., William Carter Fenton [E.], President of the Sheffield Society of Architects; Alexander Cochran Denny [d.], Frank Jamieson Forster [d.], and Isaac Taylor Sifton [d.].

The following candidates for membership were elected by show of hands under By-law 9:—

#### AS FELLOWS (51).

JAMES PEARSON ALISON (Hawick, N.B.).  
DAVID ANDREW, JUN. (Glasgow).  
CHARLES ROBERT ASHBE, M.A. Cantab.  
HENRY VICTOR ASHLEY.  
HERBERT ASPINALL (Liverpool).  
HENRY GREIG BADENOCH (Newcastle-on-Tyne).  
JAMES THOMAS BAILLIE (Edinburgh).  
EDWARD BOEHMER.  
JOHN M. BOWIE (Dumfries).  
JAMES BRUCE (Newcastle-on-Tyne).  
WALTER ASHBRIDGE CHAMBERS (Bombay).  
ARTHUR STANSFELD DIXON, M.A. Oxon. (Birmingham).

ALFRED JOHN DUNN [*Pugin Student* 1895, *Associate* 1895] (Birmingham).

HORACE COWLEY NESHAM FARQUHARSON.

HERBERT LAUNCELOT FEDDEN.

ROBERT JOSEPH HADDON (Melbourne, Australia).

JOHN HALL (Sunderland).

RICHARD HALL (Bangor).

RALTON GABDNER HAMMOND.

EWEN HARPER (Birmingham).

NATHANIEL WILLIAM HARRISON (Oxford).

JAMES HENDERSON (Alberta, Canada).

JAMES HIND (Perth, W. Australia).

ALBERT HOWELL.

ROBERT HENRY KERR.

GEORGE ARTHUR LANSDOWN.

ALEXANDER COLBOURNE LITTLE (Hong Kong).

THOMAS JOHN MELLON (Dublin).

ROBERT HEATH MEW.

ROBERT CUNINGHAME MURRAY.

HERBERT LUCK NORTH, B.A. Cantab. [*Associate* 1905] (Llanfairfechan, N. Wales).

ARTHUR HENRY OUGH, Assoc.M.Inst.C.E. [*Associate* 1892] (Hong Kong).

HENRY WILLIAM HETHERINGTON PALMER.

THOMAS TOLMIE PATERSON (Edinburgh).

FRANK BARRY COCK (Birmingham).

LENNON ROBERTSON (Cardiff).

CHARLES COLLIS ROBIN.

FRANK HEARN SHAYLER (Shrewsbury).

GODFREY DANIEL BOWER SHEPHERD (Dundee).

FRANK EDWARD SMEE.

JOHN ARTHUR SMITH (Basingstoke).

CHARLES F. STEVENS (Bombay).

FRANCIS JOHN STURDY [*Associate* 1882].

HERBERT LIONEL THORNELY (Plymouth).

EDWARD FINNEMORE TITLEY (Birmingham).

PHILIP JOHN TURNER [*Associate* 1901] (Stowmarket).

ARTHUR FREDERICK USHER.

ANDREW VASSALLO (Malta).

HORACE MAGENISS WAKLEY.

WILLIAM CHARLES WAYMOUTH [*Associate* 1895].

GEORGE WILSON (Edinburgh).

#### AS ASSOCIATES (33).

FREDERICK NOEL BAMFORD [*Probationer* 1904, *Student* 1904] (Auckland, N.Z.).

HAROLD PERCY BRETNALL [*Special Examination*].

HENRY CHARLES BROWN [*Special Examination*].

DUNCAN WALTER CLARK [*Probationer* 1902, *Student* 1904].

CHARLES EMERSON CLOUTING [*Probationer* 1900, *Student* 1903].

FREDERICK EDWIN COLLINGTON [*Probationer* 1898, *Student* 1905] (Nottingham).

LAWRENCE STANLEY CROSBIE [*Probationer* 1895, *Student* 1903].

LEONARD WILLIAM EDMONDS [*Probationer* 1903, *Student* 1905].

GEORGE HARTLEY GOLDSMITH [*Probationer* 1900, *Student* 1905] (Manchester).

ALFRED HILL [*Probationer* 1902, *Student* 1903] (Huddersfield).

WILLIAM DAVID JENKINS, F.S.I. [*Special Examination*] (Ilandilo).

ARTHUR WM. KENYON [*Probationer* 1901, *Student* 1905].

GEORGE ESSLEMONT GORDON LEITH [*Probationer* 1905, *Student* 1906].

PERCY WELLS LOVELL [*Probationer* 1900, *Student* 1902].

WALTER GOLDSTRAW MOFFAT [*Special Examination*] (Alexandria, Egypt).

SPENCER HAMMIS JOSEPH MURCH [*Probationer* 1900, *Student* 1903].

BRUCE WILLIAM OLIVER [Probationer 1902, Student 1904] (Barnstable).  
 HARRY PHIBBS [Special Examination] (Shrewsbury).  
 LOUIS AUGUSTUS PHILLIPS [Probationer 1896, Student 1903] (Newport, Mon.).  
 HENRY ARTHUR PORTER [Probationer 1900, Student 1904].  
 JOHN CLIFFORD PROCTER [Probationer 1899, Student 1903] (Benrhydding).  
 ARCHIBALD HURLEY ROBINSON [Probationer 1901, Student 1903] (Birmingham).  
 EDGAR JOHN SCAIFE [Probationer 1905, Student 1905] (Bolton).  
 HERBERT MARSHALL SPENCE [Probationer 1902, Student 1904].  
 WILLIAM STOCKDALE [Probationer 1900, Student 1903] (North Shields).  
 ROBERT JOHN TALL [Probationer 1900, Student 1904].  
 ARTHUR TEDMAN [Probationer 1898, Student 1900] (Bristol).  
 ALFRED DENNIS THACKER [Special Examination] (Birmingham).  
 BERNARD DAVID TRACEY [Probationer 1896, Student 1901].  
 WILLIAM WHITEHEAD [Probationer 1903, Student 1905] (Leeds).  
 ARTHUR REGINALD WIDDOWSON [Probationer 1903, Student 1906] (Leicester).  
 LESLIE WILKINSON [Probationer 1901, Student 1903].  
 SAMUEL ARTHUR SPEAKE YEO [Probationer 1903, Student 1904].

The Secretary announced that by a resolution of the Council under By-law 20 the following had ceased to be members of the Royal Institute—viz., James Rawson Carroll, from the class of Fellows; William John Childs, Charles Horatio Flack, Sidney George Goss, Percy John Groom, Francis William St. Aubyn, Frank Topper White, from the class of Associates.

The Secretary announced the results of the Preliminary and Intermediate Examinations held in November, and read the names of candidates who had passed the Final and Special.

The Hon. Secretary formally acknowledged the receipt of books presented to the Library (see *Supplement*), and having moved, the Meeting resolved, that the cordial thanks of the Institute be accorded to the donors.

The Chairman announced that the question of closing the Fellowship except to Associates, or those who had passed the Examination qualifying for Associateship, which it had been resolved should take place at the end of the present year, had been considered by the Charter Revision Committee, who had reported to the Council and suggested the adoption of one of the following alternatives—viz.

- (1) To make an application forthwith to the Privy Council at considerable cost to alter By-law 3 so as to carry out the implied undertakings given by the Chairman at the General Meeting of 3rd, December 1906, that if the open period were extended from 31st December 1906 to 31st December 1907 all the proposed changes in By-laws should be passed through the Privy Council by the latter date.
- or (2) In view of the fact that early application will be made to the Privy Council for the general alteration of Charter and By-laws, to postpone the question of closure until such time.
- or (3) To suspend the By-laws relating to the election of members in so far as they relate to the class of Fellows. (According to this alternative no Fellow could be elected during the period of suspension, even from the class of Associates.)

The Chairman stated that the Council considered the

adoption of the first alternative inexpedient on the score of expense.

On the motion of Mr. John Slater [F.], seconded by Mr. James S. Gibson [F.], the second alternative was adopted, and the meeting

Resolved, that the closure of the Fellowship resolved upon at the Meeting of the 6th June 1904 and the 3rd December 1906 be deferred until the granting of the new Charter.

The Chairman formally presented the Council's proposals for the revision of the Charter and By-laws, and having pointed out some slight verbal errors [see Report, p. 99] in the document as printed, the Meeting agreed to their correction in the manner suggested.

The Chairman, referring to a number of amendments to the Charter which Mr. G. A. T. Middleton [A.] had given notice to bring forward at that meeting [see page 98], and pointing out that some of these amendments were merely textual corrections which the Institute's solicitors would attend to in making their final draft, ruled that Mr. Middleton must confine himself to those only of his amendments which involved questions of principle.

Mr. Middleton having moved that clause 11. 7a should read: "Licentiates shall be persons elected by the Council at such times and under such conditions as may be hereafter prescribed by By-law," the proposal was discussed, and negatived upon a show of hands.

The new reading proposed by Mr. Middleton for clause VI. 22 was withdrawn.

An amendment proposed by Mr. Middleton to insert the words "and Associates" after the word "Fellows" in clause VII. 27, so as to give Associates an equal right with Fellows to vote upon any subject brought before a Meeting, was discussed and rejected by a large majority.

Mr. A. H. Reid [F.] having asked for provision to be made in the By-laws for members living in the Colonies to have notice of nominations of colonial candidates in time for them to express their opinion thereon before the election, the Chairman stated that suggestions that did not involve questions of principle should be sent to the Council, and if approved the Institute's solicitors should be instructed to deal with them in the draft.

Mr. H. Hardwicke Langston [A.] asking leave to bring forward an amendment respecting the revised form of Declaration (XIX. 23), the Chairman ruled that no notice of the proposal having been received as required under the By-laws it was not competent to the Meeting to discuss it.

The original motion was then put from the Chair, and it was

Resolved, against one dissentient, That this Meeting do approve the proposals of the Council in respect of the Charter and By-laws as set out on the printed paper, subject to such slight verbal amendments as might be found necessary.

On the motion of the Chairman, it was

Resolved, against one dissentient, that the Council do apply to His Majesty in grant a new Charter embodying the revisions now approved of the existing Charter.

The Chairman finally announced that the Council would at once instruct the Institute's solicitors to draft a new Charter with all necessary textual alterations, to give effect to the revisions now adopted.

The proceedings closed and the Meeting separated at 10 p.m.



9, CONDEIT STREET, LONDON, W., 7th December 1907.

## CHRONICLE.

### The Revised Charter.

The final assent of the Institute to the proposals of the Council for the Revision of the Charter and By-laws was given at the General Meeting on the 2nd inst., Mr. Edwin T. Hall, *Vice-President*, in the Chair. For the information of absent members it may be mentioned that the meeting was a very representative one, not only of Metropolitan but of provincial members. The room was packed to its utmost capacity, every seat being occupied, and many members having to stand during the entire proceedings. Fellows and Associates were present in exactly equal numbers, there being ninety-three of each class, and as far as could be judged from the Chairman's table every member took part in the show of hands for or against the amendments upon which he was called to vote. The Ayes for Mr. Middleton's amendments were carefully counted, and, as will be seen from the report on preceding pages, they did not exceed twenty-six on the principal amendment submitted. The feeling of the meeting, however, had declared itself before the votes were recorded. The murmurs of approval from every part of the room which accompanied Sir Aston Webb's speech, and the prolonged applause at its close, left no doubt as to the direction the voting would take.

The revised constitution of the Institute has been the natural sequence of the labours of the Registration Committee appointed by the Institute four years ago [*JOURNAL*, 9 Jan. 1904], and the scheme adopted last Monday was based on the report of a Registration Sub-Committee brought before the Institute and adopted on the 3rd April last year [*JOURNAL*, 7 April 1906]. An outline of the history of the whole proceedings before the Registration Committee will be found in the opening speech of the Chairman of that meeting, Mr. Edwin T. Hall [*ib.* p. 305.]

### Elections to the Fellowship.

In accordance with the notice on the agenda issued with the last number of the *JOURNAL*, the

Chairman of the Business Meeting last Monday, Mr. Edwin T. Hall announced that the question of the Fellowship had been considered by the Charter Revision Committee, and that they had reported to the Council as follows:—

With regard to the closure of the Fellowship, the Committee *Resolved* that it be recommended to the Council that at the first opportunity at a General Meeting the President should ask the general body which of the following alternatives would meet their wishes:—

- (1) To make an application forthwith to the Privy Council at considerable cost to alter By-law 8 so as to carry out the implied undertakings given by the Chairman at the General Meeting of 3rd December 1906 that if the open period were extended from 31st December 1906 to 31st December 1907 all the proposed changes in By-laws should be passed through the Privy Council by the latter date.
- or (2) In view of the fact that early application will be made to the Privy Council for the general alteration of Charter and By-laws, to postpone the question of closure until such time.
- or (3) To suspend the By-laws relating to the election of members in so far as they relate to the class of Fellows. (According to this alternative no Fellow could be elected during the period of suspension, even from the class of Associates.)

The CHAIRMAN went on to state that the Council had adopted the above recommendation, and on behalf of the Council he had to inform the Meeting that they considered the adoption of the first alternative to be inexpedient on the score of expense. The Chairman explained that the Council had been most anxious to follow the Resolution of the Royal Institute to close the Fellowship to all who were not Associates, or had not passed the examination for Associateship; but as the By-law stood at present they had been unable to do that. The Council had hoped that the new Charter and By-laws would have been got through by the end of the present year, but by an unfortunate accident last July's meeting became abortive, and they had been unable to proceed with the matter. It was therefore for the Meeting to say which of the three courses suggested they would prefer to adopt.

Mr. JOHN SLATER [*F.*] moved, and Mr. JAMES S. GIBSON [*F.*] seconded, that No. 2 be adopted.

The CHAIRMAN having put the proposition to the Meeting, it was voted upon by show of hands and declared carried.

### Resignation of the Secretary.

Mr. Edwin T. Hall, *Vice-President*, Chairman of the General Meeting last Monday, announced that the Secretary of the Institute, Mr. W. J. Locke,

had sent in his resignation. This step had been taken in consequence, he was glad to say, of the great success which Mr. Locke had attained in another branch of art. The Chairman went on to say that he was sure members would all regret that they had to part with him, but they would rejoice in the cause of his retirement and congratulate him on his success. With reference to the filling of the position, the Council had decided to advertise the office, and the advertisement would appear in the course of a few days. He need not enter into details of the qualifications required in the Secretary; these of course would be duly made known. He thought it would not be becoming for him at the present moment to make any further observation in regard to the retiring Secretary. Mr. Locke would be with them until Christmas, and an opportunity would no doubt arise when some observations would be made which he was quite sure they would all be very pleased to hear and endorse.

The *Hon. Secretary*, Mr. Alexander Graham, F.S.A., asked to be allowed to express his appreciation of the great services which Mr. Locke had rendered the Institute during the long period of his Secretaryship. He (Mr. Graham) had been associated as Honorary Secretary with him for several years, and he was happy to say that during the whole of that time they had been in perfect accord and unison. Since Mr. Locke had been with them the work of the Institute had grown enormously. He had, however, always shown himself able to cope with it and to grasp the many difficulties that had come before him. They all knew Mr. Locke's mastery of the French tongue, and that he was able not only to read and write French fluently, but to express himself in that language with as much ease and facility as would a Parisian himself. This accomplishment had been of great advantage to the Institute; for their correspondence from abroad had increased considerably, and they hoped most sincerely that his successor would be of as much service to them in this respect as Mr. Locke had been. They could only tender their thanks to him for the services he had rendered, and hope that the career he had chosen in another sphere of art would be as successful as his career had been at the Institute.

## THE NOVEMBER EXAMINATIONS.

### The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the provincial centres mentioned below on the 4th and 5th November. One hundred and fifty-three candidates were admitted, and claims for exemption from sitting for the Examination were allowed to the number of 33. The

remaining 120 were examined, with the following results:—

District	Number Examined	Passed	Relegated
London . . . .	64	43	21
Belfast . . . .	2	1	1
Birmingham . .	15	12	3
Bristol . . . .	8	2	6
Leeds . . . .	4	3	1
Manchester . . .	25	16	9
Newcastle . . .	2	2	—
	120	79	41

The passed candidates, with those exempted—making a total of 112 altogether—are as follows:—

- AGNEW: John; Galwally Park, Belfast.  
 ALEXANDER: Dare Robertson; Grimsdon House, Hornsea, E. Yorks.  
 ANTILIFF: Norris Slater; Draycott, near Derby.  
 ATCHISON: Harold Percy Reynolds; 35 Cheriton Road, Folkestone.  
 AYSHFORD: Harold; Stalheim, Woodside Park, N. Birmingham.  
 BAKER: Harold; The Dell, Serpentine Road, Selly Hill, Birmingham.  
 BARON: Spencer Bardsley; 83 Friargate, Derby.  
 BAYLIS: Arthur Gidlow; c/o A. F. Watson, Esq., St. James' Chambers, Sheffield.  
 BENWELL: Walter Richard; 2 Cavendish Mews North, Hallam Street, Portland Place, W.  
 BLACKWELL: Charles Christie; 4 Market Place, Leicester.  
 BOAG: Robert Steven; Kebroyd, Lennoxvale, Belfast.  
 BOTT: Thomas Charles; 2 Prospect Road, Leicester.  
 BOWKER: Harold; Wilderspool, Ellesmere Park, Eccles, Manchester.  
 BRACK: Laurence; Preston Farm, Stockton-on-Tees.  
 BROMLEY: William Holmes; "Roxborough," Holyhead Road, Coventry.  
 CALVERT: Alan Culbert; 1 Belgrave Villas, Bath.  
 CAMPBELL: John; 30 Portland Grove, Fallowfield, Manchester.  
 CHAMPION: William Hall; 8 Mecklenburgh Street, W.C.  
 CHANDLER: Albert Henry; 8 Plympton Road, Brondesbury, N.W.  
 CHANTER: Horace Raymond; 3 Camden Gardens, Shepherd's Bush, London, W.  
 CHARD: Charles Norman; "Parkside," Westfield, Bridgwater, Somerset.  
 CHEERS: Henry Alexander; County Chambers, Hounslow.  
 CHETTLE: George Hulbert; 76 Ridge Road, Hornsey, N.  
 COGSWELL: Victor Gordon; "Sunnycote," London Road, Portsmouth.  
 COLE: Leopold Edmund; "Kisber," Exeter Road, Newmarket.  
 COLERIDGE: Paul Humphrey; 7 Egerton Mansions, S.W.  
 CONNALL: Harold John; 55 Wilfred Street, Derby.  
 CURNOW: Stanley John; 42 Stanhope Gardens, Ilford, E.  
 EVANS: Arthur Frederic, jun.; Fazakerley House, Prescot, Lancs.  
 EVANS: Thomas Glynn; 5 Dalmore Road, Liverpool.  
 FERNYTHOUGH: Samuel; "Rose Dene," Davenport Park, Stockport.  
 FIENNES: Laurence John Evelyn; The Head Master's House, Harrow-on-the-Hill, Middlesex.  
 FINCHER: John William; "Brooklands" Shottery, Stratford-on-Avon.  
 FULLEYLOVE: John Christopher Bradshaw; 21 Church Row, Hampstead, N.W.

- GALE: George Alexander; 30 Parkhurst Road, Bexhill-on-Sea.
- GILLESPIE: James; 6 Bruntsfield Gardens, Edinburgh.
- GOODWYN: Colin C.; Lensdene, Church Road, Hanwell, W.
- GRAY: Thomas Henry; "Boisfield," Bexhill-on-Sea, Sussex.
- HACKETT: Wilfrid Blount; Ivy Bank, Addiscombe Road, Croydon.
- HARDMAN: Adrian Thomas; Northaw, near Potter's Bar.
- HARVEY: Herbert Tyrrel; 53 Nelson Square, Blackfriars, London, S.E.
- HIGNETT: Hugh Napier; Shandon, Hough Green, Chester.
- HOWARD: Frank Ernest; 24 Polstead Road, Oxford.
- HOWES: Alexander James; 85 Godolphin Road, Shepherd's Bush, W.
- HULBERT: Francis Seymour; 50 Charlwood Street, S.W.
- HUNTER: James Alexander Mitchell; 183 Preston New Road, Blackburn, Lancs.
- HUSTWAYTE: Richard Hayner; 21 Watcombe Circus, Carrington, Nottingham.
- JACKSON: Burrough de Carle; "Chelston," Overbury Avenue, Beckenham, Kent.
- JONES: Herbert; 25 Wellington Road, Whalley Range, Manchester.
- KEITES: William Lawrence; Guildford Road, Stoneygate, Leicester.
- KING: Cecil Frederic Ashfield; "Whitecroft," Ashton Lane, Ashton-on-Mersey, Cheshire.
- KIRKPATRICK: Joseph Alexander Drummond; "Cheyne," Roehampton, S.W.
- KNIGHT: Shirley; 98 High Street, Colchester.
- KUHL: John Ernest; 19 Brislee Avenue, Tynemouth.
- LAMB: Walter Herbert; The Vicarage, Morston-on-Dore, Derby.
- LANCASTER: Claude; 260, Alfreton Road, Nottingham.
- LAWRENCE: Julian Christian Victor; "Gorsey End," 3 Curzon Road, Muswell Hill, N.
- LEATHART: Julian Rudolph; 33 Canterbury Road, Brixton, S.W.
- LENTON: Frederick James; 18 High Street, Stamford, Lincolnshire.
- LIGHBODY: Thomas Henry; 3 Newton Road, Hisingholme Road, Wealdstone, Middlesex.
- LOPHTHOUSE: Wallace George; The Croft, Cartland Road, King's Heath, Birmingham.
- LOWCOCK: Edward Kay; Woodlands, Settle, Yorks.
- MARSHALL: Percy Herbert; 84 Bargates, Christchurch, Hants.
- MARTIN: William Herbert; "Lindum," 25 Fairfield Road, East Croydon.
- MAXWELL: Arthur Edwin; Bowdon College, Cheshire.
- MEADOWS: Frank Allan; Arnold House School, South Shore, Blackpool.
- MENDHAM: Bernard John; 18 Heathfield Road, Handsworth, Birmingham.
- MILNER: Arthur Charles; 26 Rosemary Lane, Lincoln.
- MORLEY: William Brighten Ilix; 57 Christchurch Road, Norwich.
- NEWHAM: Theodore Nelson; Rockholme, Hastings.
- NEWNUM: Eric George; 23 Clarence Gate Gardens, Regent's Park, London, N.W.
- NEWTON: Cuthbert Edward; 3 Shearwood Road, Glossop Road, Sheffield.
- OPENSHAW: Albert; 337 Deane Road, Bolton, Lancashire.
- OTTEY: Raymond Gascoyne; 70 Derby Street, Borton-on-Trent.
- OWEN: Albert Henry; 71 Marlborough Road, Upper Holloway, N.
- PAGE: James; 10 Clitheroe Road, Clapham, S.W.
- PATERSON: John Wilson; Verbena Villa, 3 Sciennes Gardens, Edinburgh.
- PEART: William Bruce; 10 Bruce Grove, Tottenham, N.
- PERKINS: Albert; 1 Cumberland Road, Loughborough.
- PETERS: Kershaw; 159 Boundaries Road, Balham.
- ROBERTSON: Robert; 3 Park Place, Lochee, Dundee, N.B.
- ROBINSON: Harold Graham; 27 Kiangse Road, Shanghai.
- ROBINSON: John Charles; Barn Street, Marlborough.
- ROEBUCK: Charles Charlesworth Varnon; 16 Victoria Avenue, Prestatyn, North Wales.
- SAMPSON: Montague Percival; 49 Harrington Street, Regent's Park, N.W.
- SCOTT: Theodore Gilbert; Aspland House, Thorpe Hamlet, Norwich.
- SHIRLEY: Ralph Devereux; Southbourne, Twyford, Winchester.
- SMITH: Henry; 68 Bank Street, Rawtenstall, near Manchester.
- SMITH: John Mackie Coates; 16 Vanbrugh Park, Blackheath, S.E.
- SQUIRES: George William; c/o Mr. L. S. Nicholls, "Sonny-side," Marston Green, Birmingham.
- SUFFLING: Bernard Jethow; 1 Portdown Road, Malda Vale, London, W.
- TAYLOR: Harold Cutler; Rosslyn House, Pinxton, Alfreton, Derbyshire.
- TAYLOR: Herbert Samuel; 42 Montrose Avenue, West Kilburn, N.W.
- TAYLOR: John; 201 Poolstock Lane, Wigan.
- TAYLOR: Tom Hugh; The Grange, Brilton, S.O., Yorks.
- THORPE: Alexander; "Glanbrook," West Malvern, Worcestershire.
- TROUP: Francis Gordon; 26 Uxbridge Road, Ealing, W.
- TUTTON: Alwyne; 49 Havelock Road, Gravesend, Kent.
- USSE: Jean Francois Théodore; c/o R. Williams, Esq., F.I.L.D.A. 9 Cherif Pasha Street, Alexandria, Egypt.
- VANES: Robert Newton; Leysian Hall, City Road, E.C.
- VEY: George, Jun.; 48 Thornton Avenue, Chiswick, W.
- VOELKEL: William; 21 Denton Terrace, Castleford, Yorks.
- WAITE: George William; Greenbank, Hawcoat Lane, Barrow-in-Furness.
- WAINES: Claude Cornelius Tom; 19 Marchmont Road, Edinburgh, N.B.
- WEEDON: Harry William; The Hawthorns, Church Hill Road, Handsworth, Birmingham.
- WHITEHEAD: Henry Montague; Holland House, Spring Grove, Isleworth.
- WIGGINS: John Stanley; 3 Eaton Place, Brighton.
- WILLIAMS: Ebenezer Elias; "Meriden," Market Street, Stourbridge.
- WILSON: Alexander; 321 Mansfield Road, Carrington, Notts.
- WINDER: Francis Arnold; Corn Exchange Chambers, Wharf Street, Sheffield.
- WYNNE: Thomas Stanley; School House, Northop Hall, near Northop.
- YATES: Leonard; Stepping Hill, Hazel Grove, near Stockport, Cheshire.

### The Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the undermentioned provincial centres on the 4th, 5th, 7th, and 8th November. One hundred and forty-six candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London . . . . .	92	39	53
Belfast . . . . .	1	1	—
Bristol . . . . .	16	4	14
Leeds . . . . .	12	8	4
Manchester . . . . .	17	6	11
Newcastle . . . . .	6	4	2
	146	62	84

The successful candidates are as follows, the names being given in order of merit as placed by the Board of Examiners:—

SHAPLAND: Henry Percival [Probationer 1906]; 45 Canonbury Square, N.  
 FAIRBAIR: Joseph Henry [Probationer 1903]; 62 Avenue Hill, Harehills, Leeds.  
 EDWARDS: Albert Lionel [Probationer 1906]; 26 Griffiths Road, Wimbledon, S.W.  
 MENNIE: Frederick Edward [Probationer 1905]; 46 Harford Street, Mile End, E.  
 HULLOCK: John Edgar [Probationer 1904]; Hillside, Walton Park, Clevedon, Somerset.  
 SEDDON: Joseph [Probationer 1906]; 44 Langdale Road, Thornton Heath, Surrey.  
 COWPER: James Bertie Francis [Probationer 1906]; 73 High Street, C.-on-M., Manchester.  
 HOOPER: Harold Bidley [Probationer 1905]; "Bury Lodge," St. Edmund's Road, Ipswich.  
 FAIRWEATHER: John Matthew [Probationer 1904]; 7 Northumberland Road, Dublin.  
 McCLINTON: Arthur Norman [Probationer 1907]; "Rosavill," Windsor Park, Belfast.  
 WALLER: Arthur [Probationer 1905]; 879 Bolton Road, Bradford, Yorks.  
 VANES: Robert Newton [Probationer 1907]; Leygian Hall, City Road, E.C.  
 ATKEY: Reginald William [Probationer 1903]; 7 Madeira Avenue, Worthing.  
 WILCOCKS: Conrad Birdwood [Probationer 1906]; Willatend, Matlock Road, Caversham, Oxon.  
 SNIGER: William Henry [Probationer 1904]; 5 Royal Buildings, Penarth, S. Wales.  
 PHILLIPS: Harold Graham [Probationer 1904]; 8 Riverdale Terrace, Blehmood, Surrey.  
 HALL: Edwin Stanley, M.A. Oxon. [Probationer 1905]; 54 Bedford Square, W.C.  
 PACE: Charles Lancashire [Probationer 1904]; 16 Alexandra Road, Southport, Lancashire.  
 TURNER: Horace George [Probationer 1901]; 22 Silverleigh Road, Thornton Heath, Surrey.  
 EDWARDS: Alfred Hewlett [Probationer 1901]; 183 Hinkley Road, Leicester.  
 HOTZ: Roland [Probationer 1906]; 8 Southwick Street, Hyde Park, W.  
 BEECH: Frederick William [Probationer 1903]; Lorne House, Burslem, Staffs.  
 DAVIDSON: Charles Turnbull [Probationer 1907]; 4 Linden Gardens, Hutton, S. Shields, co. Durham.  
 WHITELEY: Charles Taylor [Probationer 1906]; 10 Hall Royd, Shipley, Yorks.  
 SAGAR: William Henry [Probationer 1904]; Crescent Hotel, Bkley.  
 CLAPSON: Herbert William [Probationer 1902]; Church House, Tonbridge, Kent.  
 WHITEHOUSE: Arthur Eli Mitchell [Probationer 1904]; 12 Gibson Road, Heaton Moor, Stockport.  
 ALLEN: Albert George Westerman [Probationer 1904]; "Gleumaye," Roundhay, nr. Leeds.  
 INGHAM: Lawrence William [Probationer 1905]; "Ivy Dene," Wentworth Road, Leicester.  
 CONSTANTINE: Harry Courtenay [Probationer 1906]; 176 Castellain Mansions, Elgin Avenue, W.

DAWSON: William Frederick [Probationer 1904]; "Filsfold," Lidgett Lane, Gledhow, Leeds.  
 IRVING: David Wishart [Probationer 1906]; 41 Nelson Street, Crewe.  
 ASHTON: Arthur [Probationer 1900]; 75 Wellesley Road, Ilford.  
 COLDWELL: Edward Smith [Probationer 1904]; 116 Chevening Road, Brondesbury, N.W.  
 CORNWELL: Arthur Redfern [Probationer 1903]; 22 Argyle Square, W.C.  
 COWLISHAW: Charles Gordon [Probationer 1902]; 2 Montague Street, Russell Square, W.C.  
 CRAWSHAW: Tom Herbert [Probationer 1904]; Jordan House, Gawber Road, Barnsley.  
 DEAN: William [Probationer 1905]; 5 Trafalgar Square, Chelsea, S.W.  
 FRASER: Henry Hubert [Probationer 1902]; 6 Gordon Place, Kensington, W.  
 FRAUNDORFER: Cyril Robert [Probationer 1907]; c/o G. A. T. Middleton, Esq., 19 Craven Street, Strand, W.C.  
 FRAUNDORFER: Victor Anthony [Probationer 1907]; c/o G. A. T. Middleton, Esq., 19 Craven Street, Strand.  
 GAUNT: Oliver [Probationer 1904]; 57 High Street, Camden Town, N.W.  
 GORRINGE: Wilfred Stuart [Probationer 1903]; "Chyngton," Seaford, Sussex.  
 GRISSELL: Francis [Probationer 1905]; 22 Horbury Crescent, Notting Hill Gate, W.  
 HOLLAND: Percy Estcourt [Probationer 1904]; "The Gables," Bexley, Kent.  
 HOWLETT: Francis Henry [Probationer 1906]; Holgate Lodge, Hemsworth, Wakefield.  
 JENKINS: Herbert Lloyd [Probationer 1900]; 97 Breakspere Road, Brockley, S.E.  
 KAUFMANN: Gordon B. [Probationer 1904]; Yokehurst, East Chilton, Sussex.  
 KAULA: William [Probationer 1905]; 29 Wetherby Mansions, Earl's Court Square, S.W.  
 McNICOL: John [Probationer 1903]; 8 Park Terrace, Stockton-on-Tees, co. Durham.  
 PUTWAIN: William Stewart [Probationer 1905]; 128a Copleston Road, East Dulwich, S.E.  
 PYWELL: William Jackson [Probationer 1906]; Cumberland House, Hanwell, W.  
 SOLOMON: Henry [Probationer 1900]; 41 Bromwich Street, Bolton, Lancashire.  
 SPENCER: Thomas [Probationer 1904]; Halebryce, Upper Park Fields, Putney, S.W.  
 STABLEH: Arthur William [Probationer 1904]; Shindcliffe, nr. Durham.  
 STEPHENS: William Lealle [Probationer 1903]; "The Lynns," Dobwalls, Liskeard, Cornwall.  
 SWALES: Thomas Mason [Probationer 1903]; Ingram House, Stockwell, S.W.  
 TEDDS: Charles Edward [Probationer]; Town Hall, Newport, Mon.  
 THOMPSON: George Clifford [Probationer 1905]; Rothwell House, Rothwell Road, Gosforth.  
 TURNER: Albert Isaac [Probationer 1904]; 74 Ripley Road, Seven Kings, Essex.  
 WALKER: Marshall Eyr [Probationer 1900]; Broomlands, West Byfleet, Surrey.  
 WICKS: Herbert Graham [Probationer 1904]; c/o W. Alex. Harvey, Esq., 5 Bennett's Hill, Birmingham.

#### Exemptions from the Intermediate.

The following candidates, who had satisfied the Board that they had attended with credit one or other of the architectural courses enumerated in the regulations [CALENDAR, p. 845], were exempted from sitting for the Examination, and have been registered as *Students R.I.B.A.*:—

ADAM: Alexander [Probationer 1903]; Churchill House, Paisley, N.B.  
 BLACKFORD: Arthur George [Probationer 1904]; 12 King's Avenue, Ealing, W.  
 DAVIS: Philip Wolf [Probationer 1906]; 7 Hyde Park Square, W.  
 FULLEYLOVE: John Christopher Bradshaw [Probationer 1907]; 21 Church Row, Hampstead, N.W.  
 GRANT: Thomas Francis Wiltshire [Probationer 1902]; Bronte Cottage, Southend Road, Hampstead, N.W.  
 GROUND: John Kingston [Probationer 1904]; 3 Dents Road, Wandsworth Common, S.W.  
 PECKHAM: Arthur Nyton [Probationer 1905]; 8 Smith Square, Westminster, S.W.  
 ROWSE: Herbert James [Probationer 1906]; "Oakdene," Moor Lane, Crosby, near Liverpool.  
 WIGHTMAN: Thomas Blair Moncrieff [Probationer 1906]; 20 Percy Street, Paisley Road, West Glasgow.

#### Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 14th to the 22nd November. Of the ninety-nine candidates admitted, thirty-one passed, and the remaining sixty-eight were relegated. The passed candidates are as follows:—

BROWNRIGG: Annesley Harold [Probationer 1903, Student 1905]; 46 East Dulwich Grove, London, S.E.  
 CONSTABLE: Vernon [Probationer 1902, Student 1904]; Fernside Cottage, Cornhill Street, Glasgow.  
 CHABB: Henry Ralph [Probationer 1901, Student 1901]; 110 Grosvenor Road, Harborne, Birmingham.  
 CUBEY: Joseph Berkeley [Probationer 1900, Student 1904]; 25 Osborn Avenue, South Shields, Durham.  
 DONALDSON: Frank [Probationer 1904, Student 1905]; Bedford Lodge, Bishop Auckland.  
 EDWARDS: Arthur Cecil Morris [Probationer 1901, Student 1903]; Bank House, Church Hill, Beckenham.  
 FARMER: James Westbrook [Probationer 1899, Student 1903]; 69 Pulteney Road, South Woodford, Essex.  
 GOULD: George Harry Bertram [Probationer 1900, Student 1904]; 46 Bolton Lane, Ipswich.  
 HANTON: Peter Kydd [Probationer 1903, Student 1906]; 45 Lincoln Road, East Finchley, N.  
 HARLOCK: Edward Harold Waldegrave [Special Examination]; Lumorna, Cleveland Road, Ealing, W.  
 HARRISSON: John Anslie [Special Examination]; 41 North John Street, Liverpool.  
 HEALEY: Alfred John [Probationer 1900, Student 1904]; 70 Regent's Park Road, London, N.W.  
 HICKS: Henry Leicester [Probationer 1902, Student 1905]; 3 Roseworth Villas, Gosforth, Newcastle-on-Tyne.  
 JONES: Francis Henry [Special Examination]; Hampden Residential Club, St. Pancras, N.W.  
 MOSS: Charles Percy [Probationer 1897, Student 1901]; 58 Ashley Road, Crouch Hill, N.  
 MOUNTAIN: Stuart Mill [Special Examination; Probationer 1894, Student 1897]; 100 Pilgrim Street, Newcastle-on-Tyne.  
 PEARSON: Arnold [Probationer 1901, Student 1903]; 14 Lewin Road, Streatham, S.W.  
 PINSENT: Cecil Ross [Probationer 1901, Student 1903]; 16 Mansfield Gardens, Hampstead, N.W.  
 PURSGLOVE: Archibald [Probationer 1901, Student 1904]; Fiewland Avenue, Bramhall Lane, Davenport, near Stockport.  
 RITCHIE-FALLON: Walter Adolphus [Probationer 1906, Student 1907]; 52 Beresford Road, Canonbury, N.  
 STAHL: Max Edward [Probationer 1903, Student 1904]; Westfield, Uphill, Weston-super-Mare.

SULLIVAN: Leo Sylvester [Special Examination; Probationer 1898, Student 1903]; Embankment Chambers, Villiers Street, W.C.  
 TAYLOR: Joseph Henry [Probationer 1899, Student 1901]; 17 Albert Bridge Road, London, S.W.  
 TRENCH: Gilbert Mackenzie [Probationer 1901, Student 1904]; 50 Marmora Road, Honor Oak, S.E.  
 TREVITHICK: Cecil [Special Examination]; 8 De Crespigny Park, Denmark Hill, London, S.E.  
 VENNING: Harry John [Special Examination]; 10 Hannover Square, W.  
 WARREN: Percy Francis [Probationer 1901, Student 1904]; Morton Lodge, Alexandra Road, Wrexham.  
 WEICH: Roland [Special Examination]; 33 Cleveland Road, South Woodford, Essex.  
 WILLS: Gerald Berkeley [Probationer 1903, Student 1905]; 7 Stone Buildings, Lincoln's Inn, W.C.  
 WOODWARD: Charles [Probationer 1897, Student 1899]; 10 Church Row, Hampstead, N.W.  
 WREN: Edward Laneelot [Probationer 1901, Student 1904]; Bromsgrove Guild, Bromsgrove, Worcestershire.

The following table shows the number of failures among the sixty-eight relegated candidates in each branch of the Final Examination:—

I. Design . . . . .	38
II. Mouldings and Ornaments . . . . .	50
III. Building Materials . . . . .	22
IV. Principles of Hygiene . . . . .	20
V. Specifications . . . . .	40
VI. Construction, Foundations, &c. . . . .	32
VII. Construction, Iron and Steel, &c. . . . .	19

#### The Ashpitel Prize.

On the recommendation of the Board of Examiners the Council have awarded the Ashpitel Prize for 1907 to Mr. John Clifford Procter [A.], of Beirhydding, Yorks.

#### Colonial Examinations.

The following candidates, who had been exempted from the Preliminary Examination by the New South Wales Institute of Architects, have been registered as *Probationers R.I.B.A.*:—

GREENWELL: Carlyle; c/o Messrs. Kent & Badden, 129 Pitt Street, Sydney, N.S.W.  
 HARRIS: Royston John Keith; 1 Merchant Street, Stanmore, Sydney, N.S.W.  
 WILSON: Ronald Martin; c/o Alex. B. Wilson, Esq. [A.], Queen Street, Brisbane, Queensland.

#### Crosby Hall.

The Provisional Committee for the Preservation of Crosby Hall issued a report on the 22nd ult., recapitulating in detail the steps taken to preserve the Hall since it first became known that the site had been acquired by the Chartered Bank of India and that it was proposed to demolish the building. The history of the movement has been closely followed in the JOURNAL, and it remains now to show the present position of affairs. In response

to the Committee's appeal for public support, £50,000 out of the £120,000 required had been subscribed or guaranteed up to the 14th November. The Lord Mayor had expressed his willingness to call a meeting of the public at the Guildhall in the following week with a view to raising the remainder of the sum required, and the Directors of the Bank had been asked to stay their hands until the result of that meeting could be ascertained. This, the report states, the Directors declined to do, in the absence of the stipulated guarantee fund. They had also persistently declined to discuss the one condition insisted on by the Committee—viz. the question of the value of the additional area and more important site they were to receive in exchange for the Crosby Hall site and building. In these circumstances the Committee state that they had no alternative but to report the failure of their efforts to give effect to the public wish that the historic old building should be preserved.

The Local Government, Records, and Museums Committee of the London County Council have since taken the matter up, and the scheme they proposed was moved for adoption at last Tuesday's meeting of the County Council—viz. "That, in view of the imminent risk of Crosby Hall being destroyed unless immediate action is taken, the Local Government, Records, and Museums Committee be authorised to ascertain whether the Chartered Bank of India, Australia, and China would sell to the Council the site they have purchased, which includes Crosby Hall, and whether the Crosby Hall Preservation Committee would be prepared to hand over to the Council the amount subscribed or promised by the public; and that the Local Government, Records, and Museums Committee do report whether on these lines suitable arrangements can be made to meet the requirements of the Bank and at the same time avoid the destruction of the Hall." The scheme was opposed, however, on the ground that the Council would have to find a large amount of capital which would have to be borrowed in an unfavourable market, and the following amendment was carried by 57 votes to 49: That the recommendation should be altered to the effect that the Committee should be empowered to confer with the City Corporation, the Bank authorities, and the Crosby Hall Preservation Committee with a view to ascertaining whether it was possible to make arrangements either to preserve the Hall on its present site or to take it down and re-erect it or any part of it on another site to which the public could have access, but upon the understanding that there should be no charge upon the county rate.

The most one can hope for now is that the Bank Directors may see their way to making use of the building for the purposes of their business. Should the County Council Committee succeed in bringing this about, both they and the Bank Directors will have done good public service.

#### The late William Alexander Longmore [F.]

Mr. W. A. Longmore, *Fellow*, elected 1892, died on the 18th ult., aged eighty-three. The following particulars of his career have been kindly contributed by Mr. E. A. Young [A.].

William Alexander Longmore was the son of Dr. Longmore, of Carpenters Park, near Watford; and a nephew of Tom Hood, the poet and humorist. He was educated privately at Wanstead, and afterwards at King's College, London. He served his articles with the late Mr. H. Case, of Oxford, who was associated with Prof. Cockerell at the time in the erection of the Art Galleries for the University. Returning to London he entered the office of Mr. W. Grelhier, and afterwards of Sir William Tite, then busy on the drawings for the rebuilding of the Royal Exchange.

He was for some time subsequently principal assistant to the late Mr. L. Vulliamy, then engaged upon Dorchester House, Park Lane, and other large mansions in various parts of the country, Westonbirt and Seaham Hall, &c.

Mr. Longmore commenced practice some forty-five years ago in Whitechapel, at No. 9, Great Alie Street, then a very different neighbourhood from what it is to-day. Rapidly becoming well known, he was responsible for many commercial and other buildings in the changing district. He was for some years architect to the Whitechapel Board of Guardians, the Beaumont Trustees, and, on the introduction of the Education Act, to the Walthamstow School Board. He practically retired from active work about seven years ago, but continued a constant attendant at the meetings of the Institute until a year ago.

Mr. Longmore's chief buildings were the many large schools resulting from the remarkable growth of Walthamstow during the years 1880-1900. The villas on the Prospect Hill Estate were also mostly from his designs. In London, amongst other buildings in the East End, the Public Dispensary, Leaman Street, designed in the "correct" Italian of the time, best shows the deceased architect's skill.

Being a devoted archaeologist and a great collector of objects of interest he was well known in literary and scientific circles in East London, and was member of the Natural History, Microscopical, Literary, Photographic, and other societies at Walthamstow. He was for many years member of the Local Board. Another branch of the public service claimed much of his time, he having served in the Honourable Artillery Company for fifty-four years.

#### The Plenum System of Heating and Ventilating.

The City Lands Committee, in consequence of complaints to the effect that the courts and corridors of the new Sessions House in the Old Bailey are draughty and insufficiently warmed,

have issued the following memorandum:—"It has been pointed out to the City Lands Committee that the efficiency of the 'Plenum' system of heating and ventilating—installed in this building at great expense, and after considerable inquiry—is seriously impaired by the opening of windows. Enormous volumes of warmed and purified air have been allowed to escape in this way, and the interference with regular currents of air, flowing through the ducts, has resulted in a disorganisation of the system not confined merely to the rooms where windows have been opened. It is very desirable that a condition of things calculated to insure the best possible results from the system should be maintained throughout the building, and, in the interests of all concerned, the committee ask that the closing of windows—one of the essential principles—may be rigorously observed."

## REVIEWS.

### SCIENTIFIC VENTILATION.

*Air Currents and the Laws of Ventilation.* By W. N. Shaw, D.Sc., F.R.S. Price 3s. net. (Cambridge: University Press.)

All who are interested in the subject of ventilation—and who should not be?—must welcome any treatise dealing with the subject on scientific lines. Mr. Shaw's endeavour to draw an analogy between the laws regulating the distribution of electrical energy and those regulating air currents within buildings is at least ingenious, and cannot fail to be instructive.

So far as the general principles set forth and the laws evolved are concerned, acceptance may be conceded, because practical experience demonstrates that such laws exist and have to be reckoned with.

Perhaps the most important paragraph in the book is given on page 13—viz. "Neglect of these laws of numerical relation accounts in great measure for the failure of ventilating appliances." Consequently the more closely such laws are studied and respected, the less frequently should failure occur on the score of inadequate change of air; but it must still be recognised that, in addition to such laws, many physical requirements must be observed, appreciated, and provided for if efficient ventilation within buildings is to be secured.

This phase of the subject is dismissed somewhat summarily by the author, apparently in consequence of its complexity.

The law of convection is enlarged upon, while those of condensation and evaporation, which exercise considerable influence upon the purification or deterioration of air employed for ventilation, are practically ignored.

It is noted (page 2) that air volume and weight differ in a ventilating circuit, but probable varying degrees of contamination are not alluded to; and,

as regards comfortable ventilation, a statement (page 4) that "the resulting products of combustion do not differ seriously from that of the original oxygen" may certainly be questioned.

Some confusion of perception exists when drawing a distinction (page 5) between "so-called 'natural' and other sources of power for ventilation, when classing heat as 'natural,' provided it 'costs nothing to maintain or' is a by-product of some other process."

Discussing experiments on the flow of air up chimneys, it is stated (page 18): "The windows and doors were kept open in order that none of the heat should be used up in drawing the air through the chimneys." This implies that a suctional influence is developed in them, whereas the scientific effect is that warmer air therein is propelled upwards by cooler air around being drawn down by the force of gravitation.

A similar slip appears at pages 83-84, the vacuum system by mechanical means being likened to the action of an open fire.

So important to a clear understanding of ventilating possibilities is the fact that when a fire is lighted at the base of a flue the warmed air within it is propelled upward by cooler air outside falling by gravitation, and exercising pressure upon all openings giving access to the flue, that it is hoped Mr. Shaw will revise those portions of his book which are not in harmony with so evident a scientific fact; also that he may, on further consideration, modify his views on what he terms (page 84) "the zero potential system," i.e. the employment of motive power for both inlets and outlets, because in practice the advantages he claims for it, that no interference with the action of the fans would be produced by the opening of doors or windows, is very questionable, and the application of force to both ends of a circuit can scarcely be reconciled by the analogy of electrical energy.

A correction is required (page 84) in reference to a diagram: fig. 33 should be fig. 34.

Mr. Shaw's "conclusions" are so inconclusive as to leave the practical application of the laws he advances of little effect in cases where provision for ventilation has been insufficient, and his explanation of what he calls a paradox (preface, page ix) only leaves confusion worse confounded. The statement is: "If complaint is made of draught the proper remedy may be to supply more air—perhaps a little warmer—but less air, a little colder, or of the same temperature." There is evidence of uncertainty on the point; but is there any paradox at all, or are the premises at fault?

Draughts are generally due to excessive velocity of air, moving either as a compact body or in narrower streams: therefore, in order that discomfort to occupants of an apartment may be lessened, the air-flow must either be reduced or the inlets and outlets must be altered or arranged so that the

streams of air may be deflected and, if possible, more generally diffused.

Force exercised by the cut of a whip causes a degree of pain because it is concentrated upon a small area, but an equal force might not be unpleasantly felt if it were distributed over the whole or a much larger portion of the body. The same principle applies to what should be done to lessen or obviate draughts of air travelling at high velocity but of comparatively small volume.

On a previous occasion I had the pleasure, as I now have, of congratulating Mr. Shaw on his scientific investigations on the subject of ventilation. My only regret is that the practical applications of the principles he demonstrates are not set forth with equally convincing effect.

WILLIAM HENMAN [F.].

### EARLY BRICKS.

I do not think the following has been noted: it is from the new volume of the Patent Rolls, 1436-1444.

Page 145. 10th Oct. 1437 (16 Hen. VI.) at Sheen Manor: "Appointment of William Weyssy\* 'brikemaker,' king's serjeant, in order to speed the work on the king's manors at Sheen and elsewhere, to search for earth suitable for making the tiles (*tegulas*) called 'brike,' and arrange with the land owner to dig such earth and make such tiles: also to take sufficient carriage for the same and the requisite labourers, iron, timber, roofing-tiles, lead, stone, lathes, lime, coal, firewood, and other necessities for making such 'brike' and carrying on the said work."

Some authorities have endeavoured to persuade us that all bricks of this date were imported. On page 265 is mention of tylers for the King's manor of Haveryng atte Bourne, and at page 530 (1441) mention of the new bell tower at Fulham and the bringing of stone from the quarries at Maydeston, with the names of the masons, Richard Garald and Peter Chapell. On page 836 (1440) is mention of John Hunden, citizen of London, and "organmaker," creditor of a "bocher" of Northampton for £10. On page 825, John Marys of Stokecursy, co. Somerset, is described as "freemason."

RALPH NEVILL, F.S.A.

\* On page 495. William Weyssy and another, for good service done to the King are granted the correction, search and survey of all "berebrewers" in the realm of England. This mention of beer brewers considerably antedates the time generally assigned for the introduction of beer into England.—R. N.

## ALLIED SOCIETIES

### THE NORTHERN ASSOCIATION.

Mr. Arthur B. Plummer [F.], President of the Northern Architectural Association, delivered the Inaugural Address of the Session at Newcastle-upon-Tyne on 14th November. Mr. Plummer referred to the fact that he had been Hon. Secretary of the Association for fourteen years, and briefly compared its position at the commencement and termination of that period. At the end of 1892 the total membership of the Association was 94, at the commencement of the present year it was 250, and according to the Institute KALENDAR theirs was now nearly the largest Society allied to the Institute. Principally by the generosity of Mr. Glover the Association was now in possession of its own instead of hired premises. In addition, it possessed a valuable and growing library, a certain amount of furniture, and, above all, Mr. Glover's gift of £1,500 Consols. Referring to the question of the registration of architects, Mr. Plummer said that, till such time as registration was obtained (he hoped under the auspices of the Royal Institute of British Architects), he should continue of opinion that the Institute should take the Provincial Architectural Societies into closer alliance. He thought every Allied Society should be represented *ex officio* on the Institute Council by their President. There need be no anticipation that Provincial Presidents would attend the Council meetings in such numbers as to overrule the work of the London representatives. He should like to think that there was apparently no desire to keep any of them at a distance. He believed they had not made the advance they should have done in the matter of the registration of architects, because the public had not yet realised the importance of the question, and did not know how nearly it concerned them. Hitherto, the subject had been discussed only by members of the profession. The public now realised, as they did not at one time, how important it was that members of the medical and legal and other professions should be legally qualified men. He did not think the great majority of people were capable of judging whether buildings were the work of able or inferior men. It was nevertheless important that architects should be qualified and determined to carry out good work, without altogether disobeying their clients' demands as regards matters of detail. If an artist painted an inferior picture, one need not hang it before one's eyes continually. If an architect or someone who undertook to do architect's work was responsible for designing a building with bad outline and detail in an important position, the public were unable to avoid seeing it, and, consciously or unconsciously, they were injured by doing so. Apart from the art view of the question, the structural stability of buildings should be realised

to be a matter of importance to the public, and under this head also they need to be taught how vital it was that only qualified men should be allowed to call themselves architects. The best of architects was liable to make mistakes and miscalculations, and the possibilities of mishap were many times increased when unqualified men were allowed to act as architects. The public realised that it was important that sanitary details should be understood, and were also showing a desire to have artistic buildings, though, he feared, often at too little expense to themselves. This knowledge might lead them ultimately to demand that architects should be legally qualified to erect buildings structurally and in every way good. Even if the buildings were not of a costly character, they might be good as regards outline and grouping, and especially sky-line. The public may learn to know that a building may be architecturally and structurally good, even though it be unobtrusive. He did not think that the registration and legal qualification of architects would make architecture less of a fine art, nor would it make the ability of some men less pronounced. It would give architects more responsibility and a more definite legal position, and they would get a better educated class of men, who would be accorded a higher status. It would also unify the profession, which was at present somewhat divided, by members of the profession being connected with various architectural societies likely to become more or less important, and perhaps also less in harmony with each other. Such unification would enable them to take united action against various forms of injustice. For example, they could take some united action as to the number of articled pupils architects should be allowed to take, as was the case with the legal profession. He did not believe in municipalities and district councils or their officials taking into their own hands work that as a rule could be much better done by ratepayers, whether professional men or tradesmen. If the profession were to be unified by registration and compulsory qualification, then united action could be taken to have it made illegal for a district council, &c., to give a surveyor, sanitary inspector, clerk of works, or such like official too small a salary and allow him to increase it by practising as an architect (whether qualified or not) in the district where he should only be acting in an administrative and advisory capacity. The public were led to believe that it was policy for such an official to act for them in preparing their plans, believing that he could not advise work to be rejected that he had himself prepared. This course was really not to the advantage of the public, though they might think that a smaller salary was being paid by the ratepayers. If there was not enough work in one district to pay the proper salary of such an official, let him act for two or more adjoining districts, or make up his extra salary in some

other way. Several years ago it was decided that the London district surveyors should be appointed with the understanding that they were not to engage in private practice as architects, and in their case they were proved by examination to be qualified men. This regulation was even more necessary in the provinces in the case of unqualified and qualified men. Was it good for architecture that even capable architects should find more and more of the important architectural works being taken into the hands of corporations, and that they must, therefore, become officials of corporate bodies? Was it to the advantage of a nation or a town that their work should be undertaken in many cases by one man, who could not be an expert in all branches, and who in some cases produced a more or less similar class of design for all the municipal buildings of a city? When there was too much work to be done he had to get through it somehow, by an increase of staff and by delegating his work to others. When there was too little work a large staff had to be dismissed, or the ratepayers had unknowingly to keep them on, doing little or no work, or else work had to be created before it was necessary and to be paid for at the ratepayers' expense. In the case of corporate bodies selecting in the interests of the ratepayers the best architect for each class of work, they were not causing any one man to undertake more than was possible. When the work was finished the ratepayers had no longer to pay for the up-keep of an office and staff, and the work, he thought, would be better done and at less cost. In most cases the officials of corporate bodies made use of a larger staff of architectural assistants than practising architects would find necessary for similar work. Architects had no occasion to be ashamed of their profession when they looked at schemes for street improvements and monuments carried out under architectural advice and supervision, and compared such work with similar undertakings carried out in a piecemeal and haphazard manner without the advice of capable architects. It was complained that we did not improve upon the architecture of the Greeks and Romans and the builders of mediæval times; they, it was said, built structures that would last for ages. His reply to that was that when anything in nature or art had reached perfection, to endeavour to improve it might be useless. In olden times men also constructed buildings that would not last for ages, but naturally we had no remains of their jerry-building work. Architects of the present day were erecting structures that would last as long as any buildings ever yet constructed. The endeavour to improve upon good architecture by the invention of entirely new art and by being original at any cost might attract the attention of the multitude and put money into the architect's pockets, but would not succeed in obtaining

lasting respect and success. Referring to some unpleasant experiences he had had through the action of honorary architects of Societies who make grants in connection with church buildings, Mr. Plummer suggested that honorary architects should sign their names to their reports, and that the secretary of the Society they were acting for should send out with the copy of their remarks a copy of their signatures. Touching the educational work of the Association, Mr. Plummer said he was inclined to think that they should do good work if they sent a deputation to examine architectural educational work in connection with one or two successful architectural Societies and centres, and report the result to the Council. They could then hold a conference with their students, to discuss how they could best help them, upon similar or other lines, as they might be prepared to support. He regretted that, though many of the sketches submitted for their prizes were of an architectural character, they were not, however, sufficiently practical and detailed, though most artistic. More lasting good would result if small-scale sketches were accompanied by enlarged sketches of details and of mouldings by those students who do not make measured drawings. Many students devoted themselves entirely to sketching and comparatively few made measured drawings. Both, however, should be attended to. The Association could do useful work by arranging foreign sketching tours, say, to begin with, in alternate years. If they could not do this as an Association, perhaps they could aid and encourage some one suitable to make the necessary arrangements under their auspices. Should the Council be of opinion that they would thus be promoting the educational work of the Association, a grant might be made, perhaps in the first instance from the Glover Fund, for a conductor's fee. A few tours abroad were of great value to architects and architectural students, and did not cause their own excellent medieval and subsequent and modern work to be less appreciated. Touring in and from Belgium as a centre was as cheap as travelling in their own country, or even cheaper if properly arranged. He was quite aware that their Association had reached a stage somewhat difficult to manage. It required that attention should be given to the needs of both its senior and junior members, and it was not easy successfully to give combined attention to both. He hoped, however, that the seniors and juniors would continue to be loyal to each other for their own sakes and for the sake of the Association, and that they would all take an active personal interest and as far as possible attend their various meetings. Till such time as they were strong enough to have a paid lecturer and class fees, he would suggest that a few further regular classes should be started. The most likely to succeed

would be, first, a class to teach painting in water-colours, principally as it would be of value to architectural students; secondly, a class to teach land surveying and levelling, &c. Several years ago, and near the termination of Mr. White's period as Secretary of the R.I.B.A., he had written to him suggesting that the R.I.B.A. Council should employ a qualified lecturer to tour the provinces and give lectures on the subjects of the R.I.B.A. Examinations. Owing to Mr. White's death, the letter received little attention beyond acknowledgment. Some years later, Mr. John Slater, member of the R.I.B.A. Council, told him he thought the suggestion was worth consideration, and he therefore kindly drew the Council's attention to the matter and a committee was appointed to consider the question. As a result the various Allied Societies were written to and asked if they would contribute towards the cost of courses of lectures. It was found, however, that there was not sufficient response to make it clear that financially and otherwise it would be a success. He wished the Institute had not expected this proposal to be a guaranteed success in advance. If a commencement had been made it would in time have become a success. Before concluding Mr. Plummer commended the Architects' Benevolent Society as deserving the increased aid of the Association as a Society, and also from its various members.

#### SHEFFIELD SOCIETY OF ARCHITECTS.

At the University of Sheffield a department of Architecture has been founded, with Mr. W. S. Petch as lecturer, at the desire of the Sheffield Society of Architects and Surveyors, who will be associated with the council and the senate of the University in its management. The department is instituted to provide: first, a systematic course of training for students wishing to become architects, to be taken by them before entering an architect's office, though not necessarily before they are articled; and, secondly, an advanced and continuous course of study for students during their pupilage, and also when they become qualified assistants. Either course will be open to those who are already in architects' offices. The courses are adapted to the requirements of the examination of the Royal Institute of British Architects. The University will grant certificates to students who pass its examinations. The lecturer will be assisted in the work and supervision of the Advanced course by leading members of the architectural profession in the city. In addition to access to the University library, students will have the use of the library of the Sheffield Society of Architects and Surveyors, which will be kept in the architectural room.



## RECENT FIRE LEGISLATION FOR LONDON

UNDER THE FACTORY AND WORKSHOP ACTS, 1895 & 1901; THE LONDON BUILDING ACT, 1894; AND THE LONDON BUILDING ACTS (AMENDMENT) ACT, 1905.

By WM. WOODWARD [F.].

Read before the Royal Institute of British Architects, Monday, 16th December 1907.

**I** SUPPOSE we shall be all agreed that no man knows better where the shoe pinches than he who wears the shoe, and nobody appreciates more fully the administration of an Act of Parliament than he who suffers, or believes he suffers, from a procedure which does not happen to fall in with his own view of what is right and what is wrong.

To bring the subject of my Paper out of the realms of mediævalism, and to treat it as one within the memory of living inhabitants, let us go back only to the days of the Metropolitan Board of Works, and call to mind the nature of the Acts in force in those days, how they were administered, and whether any dire calamity occurred from fire as the result of laxity or leniency on the part of the then administrators. I can well remember one or two great conflagrations which illumined and relieved the dull murkiness of a London atmosphere: the "Tooley Street fire," for example, which for days blazed, smouldered, and ultimately died out, "leaving not a wrack behind." It seemed, too, in my young days that the old parish "squirts," as I think they were called, "hand-pumped" as they were, and the more dignified "fire-engine"—a sort of "model" engine compared with that of to-day—were always "out," tearing about the streets and frightening nervous old ladies just as the fire-engine drivers delight in doing to-day. And yet I do not know that any very serious loss of life from fire occurred then compared with the then existing population. I am not old enough to have walked through the City, arm-in-arm with the great diarist Samuel Pepys, and to have watched and noted, with the piquant and charming detail characteristic of the embellishment of his "Diary," the ravages of the Great Fire of London, a fire the area of whose devastations would have been much diminished if there had been a greater absence of wood with a corresponding presence of party-walls. We shall find as we consider the various Acts of Parliament which have been passed with the object of securing greater immunity from loss of life and of property from fire in London that the prevention of the spread of fire has always been the guiding principle of legislation.

Horizontal and vertical divisions of fire-resisting materials, and means of escape in case of fire, have from time to time engaged the attention of Parliament and of municipal and controlling authorities. It is curious, too, to note—whilst I am on the subject of comparative absence of great loss of life from fire in London—that, notwithstanding the absence

of party-walls in the hundreds of groups of the old wooden picturesque cottages which we find scattered all over England, scarcely any loss of life from fire has occurred in them, and what has occurred has been almost always due to the occupants having partaken of a little too much of the good old English home-brewed concoction which cheered as well as inebriated.

I am quite aware of the great difference which existed as regards *cube contents* between buildings in London in the reign of Charles II., and in the country cottages I have referred to, and those structures which the demands of large commercial and industrial undertakings have created even since the genesis of the Metropolitan Board of Works. But with the advent of these large emporiums and warehouses modern invention has led to the introduction of materials and methods of protection from fire which vastly increase the opportunity for clearing a building of its inmates before the "devouring element" (as the penny-a-liner terms it) has had a chance of getting well hold of the structure. And I venture to assert that these considerations have not received the attention they deserve, either from the fire insurance companies or from the authorities administering the protective Acts of Parliament. Another point is that there does not appear to have been sufficient study given to what are and what are not the best fire-resisting materials. It is, I think, by no means certain that the hideous iron staircases which one sees outside large buildings in London would not prove delusions and snares in cases of big fires, even assuming one could get nervous persons to use these staircases at all; but the question at once arises, What sort of external staircase would you have which answers to the ease and lightness of construction of these modern iron staircases, with the addition of some approximation to beauty?

In the second schedule to the London Building Act, 1894, we find "granite and other stone considered as suitable for building purposes by reason of its solidity and durability." "Solid," no doubt, granite and other stones are, but as to their suitability or durability in the case of a big fire, I should say that we are relying upon a reed which soon breaks. In the same schedule—oak and teak in beams or posts or in combination with iron—the timber and the iron are required to be protected by plastering in cement or other incombustible or non-conducting external coating; and this provision is, to my mind—at least in the case of timber—quite unnecessary. One of the best supports to a building on fire is timber, and it requires no external covering of the nature described.

Then take that much-objected-to clause in the same schedule which demands staircases to be of oak or teak or other hard timber, with treads, strings, and risers not less than two inches thick. The idea of requiring a "wall string" to be two inches thick is going too far, and it is equally unnecessary to require doors to be 2 inches thick "in all parts." This 2 inches has been reduced to 1½ inches in the London Building Acts (Amendment) Act, 1905, but in nearly all other particulars as regards fire-resisting materials the Amendment Act has adopted the wording of the principal Act. In most cases the provision of "oak, teak, or other hard timber" is quite unnecessary; good, sound yellow deal or fir would be equally effective and sufficient in the case of fire.

I think that the question of preserving timber from the effects of fire is an important one, because if some undoubted *preservative* could be secured much cost and trouble would be saved in the means now adopted. A suggestion has been made that the surfaces of timber should be coated with silicate of soda and limewash, and Professor Abel specifies that a smooth and clean surface should be first obtained and then painted with a diluted solution of the silicate, then with slaked fat lime of the consistency of cream, then with a stronger solution of silicate.

The Act of 1894 was, on its passing, considered to be the last word in protective building legislation, and we now know how disadvantageous to building operations many of the clauses of that Act have proved to be.

In 1895 it occurred to our controlling authorities that, as regards *factories* something further, and special, was required to be done in connection with provisions for escape from fire. I believe I am only giving expression to what everyone in this room thinks when I say that prevention of loss of life from fire has been the honest basis of all legislation on this subject, whether that legislation has been initiated by the Metropolitan Board of Works, by the London County Council, or by Parliament; but we architects, builders, and building owners are naturally concerned to know, first, whether all the various clauses of the Acts are fair, necessary, and practicable; secondly, how they have been interpreted in the administration of them; and, thirdly, what injury has accrued to those brought within the purview of their requirements by curtailment of space, by interference with the economical working of business, and by financial loss occasioned by reduced value of premises and cost of carrying out the Council's requirements. We must, however, remember, at the same time, that what was thought *sanitarily* good enough fifty years ago is not so thought now, and the reduction in the death-rate in London proves the value of the alteration in our ideas; and so it must be as regards loss of life from *fire*: modern views must be obeyed, and all we have to do is to see that those views are carried into effect in a reasonable and practical manner.

In the Factory and Workshop Act, 1895, Section 10 provides for "movable fire escapes"; but anyone who has had experience of such means of escape knows it sometimes occurs that the apparatus is out of order when wanted, and that the escapes are open to the remark that bodily injury sometimes occurs from their use, apart from the terror created when the inmates are full of excitement and desire to use them.

I quite admit that these inventions for getting out of burning buildings as rapidly as possible deserve every encouragement, and much depends upon simplicity and ease of working when they are brought into play. I was afforded the opportunity the other day of going over some of the premises of Messrs. Barker in Kensington High Street, and I was much struck with the evident care and anxiety on the part of the firm to make every possible provision for the rapid exit of their numerous employes in case of fire. Strong canvas shoots, easy of entry, and dropping into the street, are one of the means, and to these appliances the resident fireman, Mr. Bateman, has devoted much thought and skill, all in the important direction of simplicity and security. Fire buckets, ropes with loops for passing under the arms, and external staircases afford additional assistance, and there can be no doubt that for these canvas-shoots casements opening outwards are far better than double-hung sashes.

All of us have a natural horror of death from fire, and the more one sees of it the more one desires to control its spread. I was taken a few days back, by Mr. J. C. Stransom, of the London County Council, over the house No. 71 Commercial Road, Lambeth, in which a poor woman and child were recently burnt to death. The following is the type of that house, and of those, I am told, in which since 1st January 1906 twenty-seven lives have been lost and upwards of five hundred, more or less, seriously endangered. A small shop, with a room at the rear; passage to stairs leading to first and second floors; lath-and-plaster partitions, matchboarded in parts, and no way out to the roof. The London County Council are now requiring a partition to be put up at the top of these staircases forming a lobby over which is a trapway escape to the roof, and thence by iron fixed ladders, if required, to the roofs of adjoining premises. This is a simple and inexpensive requirement to which no reasonable objection could, I think, be raised. Had it existed at this house in Commercial Road no doubt the two lives would have been saved.

I do not know whether it is a fact or not, but it has always impressed itself upon me that fires occur in *cycles*—that they take place in groups at the same time, and that the winter months are those selected for conflagrations. The large fire at Gamage's, the other day, at the same time as other fires, brought this home to my mind, and I am sure we were all glad to know that no loss of life occurred there. This was, no doubt, due to the absence of panic, and to the fact that the fire occurred in daylight.

The Prince of Wales, appreciating the great importance of protection from loss of life by fire in hospitals, requested Sir Eyre Shaw and Captain Wells to draw up recommendations as to the best method of securing protection against fire in the various London hospitals, and these gentlemen have issued a report which appeared in *The Times* of the 27th ult. This report, it can be well understood, is valuable, and if the recommendations made in it are carefully complied with much greater chances of escape will ensue. The report directs attention to arrangements which should be made for summoning those who should be alarmed, and also to the necessity of means of immediately despatching information to the nearest fire brigade or police station—mentioning, for example, the telephone. Organisation, too, to stay "panic" is needed, so as to guide the patients to a place of safety. In a densely smoky atmosphere "wet flannel also over the face" is said to be beneficial. However, whatever the precautions are—and no doubt enormous good can be done by thought and organisation—no study can be more beneficial to mankind than that having for its object the prevention of loss of life by fire.

#### FACTORY AND WORKSHOP ACT, 1901.

In the Factory and Workshop Act, 1901, Section 14 operates on factories the construction of which was not commenced before the 1st January 1892, and in which more than forty persons are employed; and every workshop of which the construction was not commenced before the 1st January 1896, and in which more than forty persons are employed, must be furnished with a certificate from the District Council of the district (in London the London County Council) in which the factory or workshop is situate, that the factory or workshop is provided with such means of escape in case of fire for the persons employed therein as can reasonably be required under the circumstances of each case; and if the factory or workshop is not so furnished it shall be deemed not to be kept in conformity with this Act, and the certificate referred to must specify in detail the means of escape so provided.

Sub-section (2) of Section 14 requires every District Council from time to time to ascertain whether the aforesaid means of escape are provided, and, if not, to serve on the owner a notice specifying the measures necessary, and requiring him to carry them out before a specified date. This clause, it will be observed, gives a roving power to the Council, and the measures specified have given rise to much litigation, much heart-burning, and much cost. I well remember fighting, on more than one occasion, a requisition which was to my mind unnecessary and a very serious encroachment upon the ground-floor space of my client's premises. This was a passage-way about 3 feet wide, with a wall or fire-resisting partition extending from the rear right to the street, where a door had to be provided, and in one case the cost of providing a new staircase at the rear and the passage to the front would have amounted to about £1,500, apart from the loss of most valuable space. I urged that the inmates of the factory, having got down to the rear of the ground floor by means of the new staircase, could have as easily got to the street by running through the shop and out at the other door, as by being jammed together in the new passage-way. But the London County Council did not view the matter in that light. The result was that after a large consumption of time and money my client determined to send two of his workmen away (he had forty-one at the time); he thus reduced

the number to thirty-nine, and the London County Council had to leave the premises exactly as they were, and my client saved his £1,500.

Sub-section (3) of the same section gives power to arbitrate within one month after the time a difference arises between the owner and the Council.

Section 15 gives power to the Council to make by-laws providing for means of escape from fire in the case of any factory or workshop. "By-laws" are risky things, and become at times more exacting than the Acts themselves. They require careful watching and control.

Section 153, Sub-section (3), extends the powers of the London County Council under Section 164 of the London Building Act, 1894, with respect to the means of escape from fire in buildings exceeding 60 feet in height, to all factories and workshops, whether exceeding 60 feet in height or not.

A difficulty had arisen when a "factory" was in different occupations: the upper floors may have urgently needed means of escape in case of fire, which could only be provided by interfering with premises beneath, above, or surrounding, the owner of which not having forty persons employed was outside the Act, and would not allow any means of escape to pass through or interfere with his holding. The London County Council, experiencing this difficulty, have provided for it in the Amendment Act.

There are some provisions in the Act respecting the form of doors to be used in factories, and with reference to these and other special forms of door, whilst I agree that they should be made to open outwards, I think some of the fastenings specified might be much simplified.

The first schedule to the Act provides for arbitration between the owner of the factory or workshop on the one hand and the District Council or London County Council on the other hand, fourteen days being the time within which the arbitration is to be commenced.

#### THE LONDON BUILDING ACTS (AMENDMENT) ACT, 1905.

In 1903 the London County Council was again "seized," as the old saying is, with a desire for further powers to secure further means of escape in case of fire, and they brought in a Bill which so thoroughly alarmed the owners of property in London—including the City—that a thorough combination of effort to prevent the passing of the Bill was effected, with the result that that Bill was withdrawn. I must confess to some personal satisfaction that I was able to contribute somewhat to the withdrawal of that Bill. I may perhaps be permitted to mention that Mr. H. L. Florence and myself were engaged by the proprietors of eighteen of the most important of the hotels in London to consider the Bill with reference to the effect of it upon these hotel buildings, and in an exhaustive report which we made on 24th February 1903 we were able not only to point out the very serious mischief which might arise to these hotel buildings if the provisions of the Bill became law and were enforced; but to state that we had been pleased to find in most of the hotels many admirable precautions and safeguards existing for the escape of the inmates in case of fire, such as—

- (1) Powerful pumps to raise water to the roofs of the highest hotels where storage cisterns of great capacity are placed to ensure due pressure of water.
- (2) Fire hydrants on the various floors.
- (3) Hand pumps, tanks on wheels, and fire pails on the various floors.
- (4) Fire alarms, which bring to the different floors, in from one to two minutes, firemen and porters well trained to use the hydrants and hose.
- (5) Emergency bells on each floor.

(6) Firemen who patrol the building every hour.

(7) Control or "tell-tale" clocks, which ensure the patrol of the firemen at night.

In addition to these precautions there is the fact that in hotels, night and day, there are always servants and staff men about on each floor, and that ready means of communication exist with the London County Council Fire Brigade.

There can be no doubt that the Bill of 1903 contained a large number of most important clauses which would have been beneficial to the public at large, and to building owners in particular; but at the same time there permeated the document a clear attempt, in my opinion, on the part of the London County Council to take such power as would enable them to enter every man's house, on fishing expeditions, to discover something to pull down or to require something to be put up. I conjured up an army of inspectors whose business it would have been, at the ratepayers' expense, to enter upon, what I termed at the time, "police excursions," which must have resulted in great interruption of business and enormous loss of money—all because of an innate desire on the part of the controlling authorities to improve the Metropolis at the expense of the individual, and to employ a Nasmyth hammer to crack a nut.

But the London County Council were not so easily set at rest; in 1904 they were "at it" again, and the result of their renewed activity is the London Building Acts (Amendment) Act of 1905, which is now in force.

On 4th December 1905, I at the request of the then President of the Institute (Mr. Belcher) read in this room a short Paper on this Act, which did not, for all practical purposes, come into force until 1st January 1906 (Section 7), and this as regards certain *new* buildings; and for the remainder it did not come into force until the 1st January 1907 (Section 9), and this as regards certain *old* buildings, being a retrospective clause, to which I personally take great exception. So that when I read my Paper in December 1905 we had had no experience of the working of the Act.

I, with many others, always fret and fume at what I term "grandmotherly legislation"; that was the burden of my song in 1905, and I suppose it will be to the end, but I "found salvation" in the fact that many of the provisions of the Act were referable to the Tribunal of Appeal, which remains as it is constituted under the Building Act of 1894.

In the discussion which took place on my Paper Mr. Douglass Mathews used some very sound words when he said that the special object of this Act was to "take means to prevent loss of life from fire, and not to wait until a fire occurred," and with that sentiment every one will cordially agree. The duty of the Fire Brigade is practically to provide means of escape from the *outside* of buildings; the duty of the London County Council to afford protection in the *insides* of buildings.

I concluded my Paper by observing that we must do the best we could with the Act now that it is law; that its success or failure depended very largely upon the manner in which it is to be administered, and that we should not condemn the administrators until they had had a fair trial. I added that if the officials who had to do the work would bring to bear upon the provisions of the Act sound common sense, and keep the spirit of the Act, rather than the letter, always before them, much trouble would be saved, and that fair and reasonable protection could be afforded quite as much by the practical exercise of common sense as by the exhibition of fads and fancies, which too often characterise constituted authorities; that we all trusted to the London County Council to administer the Act in a reasonable manner; that if they did, they would have the assistance and co-operation of all architects; if they did not, they must look forward to constant attempts at evasion and to bitter litigation which would neither protect lives nor advance the real interests of the biggest metropolis in the world.

It should be borne in mind that this Act of 1905 only became law after the Bill had received the most careful attention of a Select Committee of both Houses of Parliament, and it is very interesting to read the *précis* of the evidence given before those Committees, which is now published in the form of a Blue Book.

The Bill as originally deposited was a Bill for the general amendment of the London Building Acts, but before it came into Committee all of it was dropped except the one part relating to fire. The Bill was before the Committee of the House of Commons nineteen days, and before the Committee of the House of Lords four days. The Bill was strongly opposed, amongst the petitioners who appeared against it being the Corporation of London, the Royal Institute of British Architects, the Surveyors' Institution, the Institute of Builders, the District Surveyors' Association, &c.

Many of our professional brethren and members of the Institute gave evidence, amongst them being, for the promoters, Mr. W. E. Riley, Superintending Architect of Metropolitan Buildings and Architect to the London County Council: and, for the opponents, Mr. Edwin T. Hall, Mr. Thomas Henry Watson, Mr. Bernard Dicksee, Mr. Alexander Stenning, Colonel Eustace Balfour, Mr. E. W. Wimperis, the late Mr. H. H. Collins, and several large property owners.

It came out in evidence that the Factory and Workshop Act, 1901, which provided for means of escape for factories and workshops employing over *forty* persons, was found to be unsatisfactory on account of the limit of numbers, and the fact that very many premises could not be dealt with because the provision of satisfactory means of escape would involve trespass on intermediate holdings in the same building or on adjoining buildings. In this connection it should be mentioned that when the above Bill was promoted no fewer than nine hundred and eighty-nine factories reported as dangerous by the Home Office could not be dealt with by the London County Council because they did not come within the scope of existing Acts of Parliament.

It was found also that Section 61 of the London Building Act, 1894, which provided for means of escape to roof, was also unsatisfactory, as it could be easily evaded by not providing a parapet.

Section 63 of the 1894 Act was unsatisfactory, as it only provided for means of escape from the portions of buildings over sixty feet above the pavement level, whereas fire escapes only reach 55 feet, and even below that level life could only be saved very slowly by fire escapes.

All these questions came to an issue when the well-known fire occurred at Nos. 67 to 71 Queen Victoria Street in which ten persons lost their lives. This was a building in which 145 people were employed in the whole building, but only twenty in the portion used as a factory. At the inquest the coroner and jury recommended that the Building Act of 1894 should be amended so as to deal with cases of this kind.

The Home Secretary stated that the subject of safety from fire required early consideration, and in consequence of this representation it was decided to amend the legislation in such a way as to provide means of escape from all buildings in which more than *twenty* persons were accommodated.

The result of the legislation was the London Building Acts (Amendment) Act, 1905, and before devoting a little time to the consideration of the working of the Act up to the present time we will deal briefly with its main features.

Under Section 7 plans of new high and twenty-person buildings must be submitted to the Council, and certificates must be obtained, before the buildings are occupied. The administrators of the Act appear to aim at obtaining two separate means of escape from each part of

the building. In flats and tenements, &c., they have accepted, however, one staircase with self-closing fire-resisting doors for floors under 50 feet high, but they usually require some other means of escape from the floors above that level.

In buildings other than dwelling houses until recently a ventilated lobby has been required between the staircase and the room, but the Tribunal of Appeal have in three cases, viz. 13 and 15 Leather Lane, 1 and 2 Gracechurch Street, and 41 and 42 Beech Street, Barbican, in buildings under 1,000 feet superficial, upheld appeals against the provision of these lobbies. The Tribunal of Appeal stated, I understand, that they did not propose to decide a general principle as to whether these ventilated lobbies were or were not desirable in some cases, but that they were only dealing with the cases before them. Both from the Council's point of view and that of the public this appears to be regrettable, as, if they had settled the general principle, it would have been a good guide to architects as to what to provide in the future.

Two of these cases have been fought by Mr. Percy B. Tubbs, and in the case of Nos. 41 and 42 Beech Street, Barbican, the Tribunal of Appeal allowed the appeal of Mr. Tubbs, and awarded sixty guineas costs against the London County Council.

It appears that the principal objection raised by Mr. Tubbs was to the "smoke lobbies" which to many of us have been a sore bone of contention. Mr. Tubbs stated in his evidence (vide *The Builder*, 19th October 1907) that although he had put these lobbies in, in four or five cases, at the instance of the London County Council, he was no believer in them. He further stated that he had experimented on one of these smoke lobbies and found that the air was drawn into the room rather than the smoke being driven out of it, and that on opening the door leading to the staircase the smoke rushed up the staircase, and that it conclusively proved to him that the ventilators acted as inlet ventilators, and not as exhaust ventilators. It appeared also that the London County Council Committee were prepared to consider proposals of various alternative measures of escape, and one of them was a means of communication with adjoining buildings by means of ladders; but, unfortunately, the adjoining owners would not agree to these ladders being placed on their premises.

I think many in this room will heartily congratulate Mr. Tubbs on the success of his appeal, as there can be no question of the nuisance of these smoke lobbies in small buildings, besides which we have not yet had a single case in which a fire has occurred, and which would have conclusively proved their use or their failure. Another important point raised in this appeal is the fact that Mr. Tubbs could not get the consent of the adjoining owners to the proposed ladders. These ladders afford an inexpensive and satisfactory means of escape on to the roofs of adjoining houses, and I pointed out the weakness of the Act when I read my Paper here—that whilst provisions were made for escape by roofs, no power was conferred to compel adjoining and recalcitrant owners to consent to ladders giving access to their premises. This omission is inconceivable, but there it is until it is supplied by another Amendment Act. I cannot myself understand the objections being raised, as these ladders are sauce for the goose and ditto for the gander.

Since Mr. Tubbs's appeal was allowed the Building Act Committee of the London County Council have issued the following report, viz. (vide *The Builder*, 16th November 1907):

"Since the coming into operation of the London Building Acts (Amendment) Act, 1905, appeals have been made to the Tribunal of Appeal against the Council's requirements for the provision of ventilated lobbies to staircases in certain cases.

"The decisions of the Tribunal of Appeal in these cases have made it necessary for us to reconsider the practice of the Council in similar cases arising under Sections 7 and 9 of the Act. Hitherto it has been the practice to require as an alternative to secondary means of escape ventilated lobbies to staircases in order to prevent smoke logging. The Tribunal

of Appeal has definitely declined to lay down a general rule, but in the three above-mentioned cases it has decided that an enclosed fire-resisting or incombustible staircase with means of escape to and from the roof is sufficient for the purposes of the Act. We have therefore determined that in similar cases such means of escape only shall be required."

Under Section 9 of the Act the Council may make requisitions with regard to existing high and twenty-person buildings, and the same principles are adopted as for new buildings, but the existing means of escape are, where possible, made use of. It is considered desirable that architects when altering buildings should obtain the Council's views with regard to means of escape, so as to embody the suggestions with other alterations.

Under Section 10 projecting shops are required to be provided with a fire-resisting roof and other details, but the Council have large powers of exemption. The Council have given publicity to these powers, and have made liberal use of them. In the majority of cases exemption is granted from the larger works laid down by the Act, on condition that some smaller works, such as providing a screen to protect the roof access, are carried out. One of the advantages of this, from the owner's point of view (in addition to the reduced cost), is that the shop is not disturbed during alterations.

Section 11 deals with buildings used for the storage of inflammable liquids, and the Council are required to provide for protection against spread of fire as well as means of escape. The usual effect of the Council's requisitions is that the owners place the oil-tanks, &c., outside the main building, and convey the oil by a pipe to the shop for the purposes of service.

Section 12, which provides for access to roof, is not altogether satisfactory, as it is necessary to protect the access to roof before it can be considered satisfactory.

#### EXEMPTIONS FROM THE LONDON BUILDING ACTS (AMENDMENT) ACT.

The Amendment Act does not apply to buildings which are wholly in one occupation, as a factory or workshop, in which there are more than forty persons employed. (*Vide* Section 26, Sub-section (1).)

Whenever I have had an opportunity of discussing an Act of Parliament relating to buildings I have always protested against "exemptions," and this Amendment Act may be said to teem with them. Why should certain buildings belonging to a dock company, or to a railway company, or to an electric lighting company, or to a gas company, or to banks and insurance offices, or to the Stock Exchange buildings, be exempted from provisions for means of escape from fire? Is a bank or insurance clerk's life of such little moment that he may under certain circumstances be legally permitted to be consumed in his office, whilst a factory or workshop hand shall be safely led out into the open air and into the arms of his delighted family? And so with the thousands of employes of the companies I have above named. The "exemptions," however, become more serious the more we note them. The Royal Albert Hall, for instance, is exempted. I know the Albert Hall very well, but I really cannot understand why it should be specially singled out for exemption, unless it comes, as it may do, under some provision of some other Act. Again, the Lord Mayor and his *entourage* may be legally consumed in the Mansion House, and all other citizens using the Guildhall and the Royal Exchange must look after themselves.

I pointed out when reading my previous Paper the only piece of real humour I had detected in the Amendment Act. Section 28 euphemistically exempts the lands and buildings of the Honourable Societies respectively of the Inner and Middle Temple, Lincoln's Inn, and Gray's Inn from the operation of the Act under the marginal heading of "Protection of Inns

of Court." Now this Amendment Act has been drafted by lawyers and minutely considered by lawyers, and they have undoubtedly arrived at the conclusion that if they could get exempted from the provisions of an Act drawn to facilitate escape in case of fire they would, as human beings, be "protected." Fortunately a fire has not, so far as I know, occurred in either of these Inns since the Amendment Act came into force; but considering the age and character of many of the buildings referred to, I venture to think, and to lament, that if a serious fire did occur the legal element of this country would be depleted, and the complaints of an overcrowded profession cease to have meaning! And why should the lawyers of Staple Inn be "protected," as they are under Section 34, Sub-section (2), by being included within the provisions of that section? Are they better men, as citizens, or is it that the great lawyers of the other Inns really desire their extinction? There I must leave this very engrossing topic.

#### THE MACHINERY AND WORKING OF THE AMENDMENT ACT.

It must be confessed that up to the present time little just cause of complaint has arisen from the operation of the Amendment Act, and with the exception of the three cases previously mentioned *re* smoke lobbies I have not heard of any applications to the Tribunal of Appeal under the Act. It may be useful now to summarise the machinery by which the Act works.

#### "HIGH" AND "NEW" "TWENTY-PERSON" BUILDINGS.

A "high" building means (Section 6, Sub-section iv.) any building any story whereof is an upper story; and "upper story" means "any story the level of the upper surface of the floor whereof is at a greater height than fifty feet above the level of the footway (if any) immediately in front of the centre of the face of the building in which such story is situate."

A "new" building means (Section 6, Sub-section v.) "any building the actual erection of which above the footings shall not have been *bona fide* and substantially commenced at the date of the commencement of this Act, or which has been taken down, burnt, or destroyed for more than one half of its cubical extent and re-erected or commenced to be re-erected after such date, or of which the cubical extent has been increased after such date, by an amount equal to the cubical extent of the building as existing before such increase, and any existing building which by reason of any alteration thereof or addition thereto becomes a high building after such date."

A "twenty-person" building means (Section 7, Sub-section (6)) "a building in which sleeping accommodation is provided for more than twenty persons, or which is occupied by more than twenty persons, or in which more than twenty persons are employed, or which is constructed or adapted for the employment therein of more than twenty persons."

The "owner" means (Section 6, Sub-section (1)) "the person for the time being receiving the rack rent of the premises in connection with which the said expression is used, whether on his own account or as agent or trustee for any other person, or who would so receive the same if such premises were let at a rack rent."

And "rack rent" means (Section 6, Sub-section (11)) "rent which is not less than two-thirds of the full annual value of the premises out of which the rent arises."

*A. As regards the Owner.*—(1) The owner must submit his plans, so far as the means of escape are concerned, to the Council before commencing a new building which is a high building or a twenty-person building. This enables the owner to arrange his building plans at the earliest possible stage, so that alterations will not be necessary later on. The owner

may find a difficulty, in the case of a speculative building, in indicating exactly what will be the ultimate plan of the building. The owner, however, can readily indicate what he is prepared to provide as means of escape on the assumption of a normal or assumed occupation, leaving the question of exceptional occupation to be dealt with by a supplementary application to the Council when the exact occupation has been ascertained. The Tribunal of Appeal, in the case of 1 and 2 Gracechurch Street (vide *The Builder* of 3rd August 1907), adjudicated upon a case in which the owner had deliberately refrained from complying with the obligation upon him to deposit the plans with the Council, but put up the building and then defied the Council. The Tribunal decided in favour of the owner in spite of protest on the part of the Council's legal advisers on a legal issue. It seems unreasonable that the owner should have the advantages of an appeal when he has not fulfilled his statutory obligations by submitting his plans prior to the work being commenced. (2) The owner must not let or occupy before getting the Council's certificate (Section 7, Sub-section (2)). This is reasonable, as it prevents an unscrupulous owner from introducing an unwary tenant into his building before it has been rendered safe in the case of fire, or of shifting his obligations upon him. (3) The owner must give notice to the Council (under Section 7, Sub-section (3)) when substantial alterations are made in a certified building, so that the Council may express an opinion whether the alterations prejudice the means of escape.

B. *As regards the Council.*—The Council are bound to approve or disapprove the plans in a month, and it must be admitted that this in some cases represents a heavy burden upon the Council. For example, for such a large and complicated building as the Piccadilly Hotel a month is hardly sufficient to consider, report upon, and inform an applicant whether his proposed building will be satisfactory on the question of means of escape in case of fire, and in that particular case the architects have no reason to grumble at the time taken by the Council for the consideration of the various plans.

C. *As regards the Tribunal of Appeal.*—The public will no doubt draw their own conclusions from the fact that out of the large number of cases of new buildings which the Council must have dealt with, in only three, so far as I know, have the Council's decisions been appealed against. The case of Gracechurch Street, referred to above, ought, on the face of it, not to have been adjudicated upon, and we shall all agree that it would be most useful and desirable if the Tribunal, wherever possible, would give a definite ruling as to what they were prepared to certify as reasonable in buildings of the character before them. For example: their definite decision that smoke lobbies were not necessary in any building would have been most valuable to architects; but as the matter now stands the decision of the Tribunal only refers to similar buildings to those upon which they adjudicated, and further litigation may arise if the Council still require what they consider reasonable in similar cases. Architects are not even now certain that their plans will be passed if these smoke lobbies are omitted. It must be borne in mind that the report of the Building Act Committee *re* Smoke Lobbies, to which I have referred, only refers to "similar cases" in which an alternative to the lobbies will be sanctioned. "Smoke logging" is not yet dead, it is only "scotched."

D. *As regards the Practice of the Council.*—The Council have issued a statement of what they consider desirable as means of escape in various classes of buildings. This statement indicates generally that in small buildings one good staircase must be provided. In large buildings two staircases or two exits from each floor must be provided. The question as to the character of the staircase in small buildings was the main subject of the appeals referred to above. The Council concluded that it was not reasonable to consider a building safe in the event of fire where the only exit was by way of a staircase with doorways opening directly

on to it from rooms used as showrooms, offices, shops, and storerooms, in any of which a fire might arise and enter the staircase through the doorways, and render it very rapidly unavailable for escape up or down. The Council asked in such cases for at least a lobby or small corridor between the rooms and the staircase, so that in the event of fire in one of the rooms there would not be an immediate attack upon the staircase. It seems reasonable to conclude that the Amendment Act of 1905 involves that something should be done in addition to what would have been done in the ordinary way prior to the passing of the Act. Upon the assumption that a single ordinary staircase is not a safe exit in case of fire, the alternative to the lobby appears to be a second exit—which, of course, in the majority of small cases, would be an impossibility from the owner's point of view.

#### THE CUBICAL EXTENT OF BUILDINGS.

Section 5, Sub-section (24), of the London Building Act, 1894, defines "cubical extent," as applied to the measurement of a building, to mean the space contained within the external surfaces of its walls and roof and the upper surface of the floor of its lowest story.

Section 5, Sub-section (28), defines a building of the "warehouse class" as a warehouse, factory, manufactory, brewery, or distillery, and any other building exceeding in cubical extent 150,000 cubic feet, which is neither a public building nor a domestic building.

Under Section 75 no building of the warehouse class is to extend to more than 250,000 cubic feet unless divided by party-walls in such manner that no division thereof extends to more than 250,000 cubic feet; but under Section 76, where the Council are satisfied on the report of the superintending architect and of the chief officer of the Fire Brigade that additional cubical extent is necessary for any building to be used for any trade or manufacture, and are satisfied that proper arrangements have been or will be made and maintained for lessening, so far as reasonably practical, danger from fire, the Council may consent to such building containing not more than 450,000 cubic feet, provided that the building is divided by party-walls in such manner that the cubical extent of each division does not exceed the 450,000 feet. The building must further not exceed 60 feet in height, and must not be used for the purpose of any trade or manufacture involving the use of explosive or inflammable materials.

Section 77 gives rules as to the uniting of buildings, and states that an opening shall not be made in any party-wall or in two external walls dividing buildings which if taken together would extend to more than 250,000 cubic feet. The opening is not to exceed 7 feet in width or 8 feet in height, and is to have the floor, jambs, and head formed of brick, stone, or iron, and be closed by two wrought-iron doors, each a quarter of an inch thick in the panel, at a distance from each other of the full thickness of the wall, &c.

We all know the difficulties which have been created by these cubical extent clauses, and that even since 1894 trades have been opened up which have been much hampered in their uses and developments by the fact that the Council have no power to allow more than 450,000 cubic feet without these obstructive party-walls, and these equally obstructive iron doors. Drapery establishments, engineering works, and motor-car works and showrooms are three trades which at once occur to me, and no doubt there are many others.

There can be no doubt that the Council have themselves seen how detrimental these provisions have been to modern ideas of large areas for modern buildings, but a section of the Council have also had in mind the risk of serious conflagrations when such large buildings are not subdivided by party-walls. The chief officer of the Fire Brigade has also impressed upon the Council that if these large undivided buildings are permitted the strength

of the Brigade will have to be very considerably augmented to cope with the increased danger from fire.

The Council have now determined, I believe, to apply to Parliament in the session of 1908 for power to amend the Building Act of 1894, as regards the cubical extent of buildings, in the following manner—viz.—

(1) Section 75 to be amended so as to enable the Council to allow horizontal separation.

(2) Section 76 to be amended so as to remove all restrictions on the Council's power to allow increased cubical capacity for buildings of the warehouse class.

(3) Section 77 to be amended on the lines laid down in the London Building Acts (Amendment) Act, 1905, so as to give the Council discretionary power with regard to openings in party-walls, the provision of fire-resisting doors constructed of materials other than iron, and the uniting of buildings.

I think we in this room and the public generally would be very glad to hear that the Act of 1894 had been amended in the direction indicated above. Personally I think the views of the Fire Brigade are a little too pessimistic, although, of course, nobody knows better than the Brigade the difficulties attending putting out fires in the different classes of buildings with which they have to deal; but I do not think sufficient note is taken of the vastly superior character of construction which now obtains in our large buildings, the excellent appliances provided by the owners for dealing with outbreaks prior to the arrival of the Brigade men, and the comparatively rare occurrence of loss of life from fire in these large well-built and well-looked-after structures. The taking of power to allow horizontal separation as well as vertical is most important, and the wiping away of the vexatious restrictions now in force as to the size of openings in party-walls and the iron doors therein is mightily to be wished. What does it matter whether an opening is 9 or 10 feet wide or 9 or 10 feet high, or any other required size? But here we are tied down by the Act to the 7 feet and 8 feet as if those dimensions had been ascertained by some god-like scientist as figures the alteration of which by one inch would involve the roasting to death of any number of persons who would otherwise have escaped into the street.

We do not want to be confined so much to 10-inch treads and 7½-inch risers; we object to being restricted to fifteen steps in a flight, and requirements as to exact character of doors, &c., are sometimes inopportune. We want elasticity, more elasticity, and still more elasticity, and I believe we shall ultimately get it.

#### CONCLUSIONS.

I am one of those individuals who when discussing a "Bill" like to fight to the bitter end any clause which appears to be unreasonable or unnecessarily exacting; but when the Bill becomes an "Act" there is little left but to pay decent respect to its provisions and to endeavour to get those provisions interpreted in a fair and reasonable manner, both as regards the letter and the spirit of the Act. This particular Amendment Act gives considerable latitude to the Council, and in practice it will be found, I think, quite reasonable to ease off some of its provisions. I should have liked to have seen omitted in the Factory and Workshop Acts, and in this Amendment Act, all such hard-and-fast words as "forty persons" and "twenty persons," as these specific provisions only induce evasion if compliance is costly or difficult. I would leave each case to be dealt with by the Council entirely on its merits, and if the reply to that is that favouritism might result, or that it would be undesirable to place such great power in the hands of the Council, my retort to that is, that as in everything else, injustice finds its level; and as in our Courts of Justice all decisions are subject to

appeal, it might be desirable to give power to leave every decision to a Tribunal of Appeal. No person would take advantage of this opportunity unless he thought he had a good case, because the costs of his action would be a sufficient deterrent. It is true that the Council's costs are paid by the ratepayers, and that makes all the difference.

I think the 9-inch newel wall to a staircase might be omitted in many instances; I think the smoke lobbies might be omitted altogether; I think the thickness of a wall string might be less than 1½ inches; I think the thickness of the panels of doors might also be less than 1½ inches; I think the reduction of height in buildings from 60 feet to 50 feet unnecessary, as I thoroughly believe the London Fire Brigade appliances perfectly able to rescue persons from a burning building at a greater height than 50 feet; if they are not, then the London County Council must send abroad to obtain particulars which I know they are not in need of. I am glad to see the elastic way in which the London County Council is dealing with projecting shops—that item in the Amendment Act which caused such tribulation. I hope the London County Council will modify all their requirements in the way of ventilating areas, including, of course, the vexatious trunks inside, and gratings in the fronts of buildings to take air into those areas—requirements, to my mind, quite unnecessary and entailing great vexation and expenditure. I should rely a little more on the ability to get out of a building on fire before that fire got a hold—*as in the case of Gamage's*—but I would not stop short in any house in London in insisting upon a way out to the roof, and, having got there, a way on to adjoining premises.

I hope I have dealt fairly with these very important provisions for protection of life from fire, and with the means of escape when the fire occurs. I have written the Paper with due regard to the great responsibilities of, and to the views naturally entertained by, the London County Council. I believe that if the parties on both sides approach the provisions of the Act with common sense and with a sincere desire to do what is right, fair, and reasonable, the pessimistic views with which I and others regarded the "Bill" will give place to brilliant optimism and satisfaction. We must bear in mind the great powers placed in the hands of the Council, who must in their turn remember the very small proportion of deaths by fire in London. We do not need, as I have said, a Nasmyth hammer to crack a nut, and as the wheels of the gods move slowly but surely, so should the wheels of the London Building Acts (Amendment) Act move slowly, cautiously, and fairly. One final word. When the proposed Amendment Bill to the Building Act of 1894 is being drafted, and when any other Bill on any other subject in this world is being drafted, may some kind and watchful angel sit up aloft over the shoulders of the draughtsman and *make him punctuate every sentence!*

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## DISCUSSION ON THE FOREGOING PAPER.

Mr. EDWIN T. HALL, *Vice-President*, in the Chair.

Mr. J. DOUGLASS MATHEWS [*F.*], in proposing a vote of thanks to Mr. Woodward, said that he was in general agreement with all that he had brought forward in his Paper. He had dwelt very much on the question of smoke lobbies, and he (Mr. Mathews) was very glad to know that the County Council had seen the desirability of not pressing this requirement any further. He himself had taken part in the three appeal cases, and had studied the question in every possible light, but he could not convince himself as to the necessity or reasonableness of these smoke lobbies. When he mentioned the word "reasonable," he thought the Institute was entitled to a great deal of credit for having got the word "reasonable" introduced. That word was not in the Bill in the first instance, but it was shown that its introduction would be of great value. Another suggestion the Institute made was that in all cases where the County Council had discretion it should be subject to appeal to the Tribunal of Appeal. The Amendment Act was a very important measure, and one in which differences of opinion must necessarily arise, not so much as to the principle, but as to carrying it out. Mr. Woodward in his summing-up had mentioned that he considered every house ought to be provided with a means of escape to the roof. Probably there was nothing more difficult than that. In the case of an ordinary semi-detached dwelling house means of escape might be gained by access being given from the roof of one house to another, but if one took an ordinary detached dwelling house without parapets, then it became a very difficult matter. One of the chief difficulties was that, supposing some kind of protection was put up in front of the trap door, or dormer, as a guard, it might lead to sad consequences, because a person had not simply to get on to the flat or landing, but he would have to climb over the obstruction before he could get within touch of the fire escape. This was one of the details that necessarily present themselves, and unless the means of escape was very simple and easy for use, it became a trap rather than an advantage. He agreed with Mr. Woodward in thinking that the County Council were taking an elastic view of things. It was a very difficult matter for a body like the London County Council, which was charged with the supervision of the means of escape from fire in every building in London, to take upon itself the great responsibility that this duty entailed. He could not help thinking that it would much simplify matters, as far as the Council were concerned, if they made suggestions to the owners

to do certain things, and put the onus of the responsibility upon them. That would save a great deal of trouble, because it would throw a responsibility upon the owners, which they themselves would not feel disposed to accept. As things were at present, supposing that the requirements had not been pressed upon the owners and enforced by the County Council, they might say at once, "We have heard no more of it and have done nothing," and would shelter themselves under the inaction of the County Council. He agreed with Mr. Woodward that grandmotherly legislation was undesirable, and he thought that if the public were treated as sensible beings a great deal might be done without the pressure and enforcement of a public body. He had much pleasure in proposing a hearty vote of thanks to Mr. Woodward for his very excellent Paper, and he trusted it would result beneficially to the inhabitants of London generally.

Mr. W. E. RILEY [*F.*], Superintending Architect of Metropolitan Buildings and Architect of the London County Council, said that they could all heartily second the vote of thanks so ably proposed by Mr. Mathews, and compliment Mr. Woodward upon the temperate tone of his Paper. The Paper was not free from humour—indeed, they would not like to hear a Paper from Mr. Woodward which was free from humour—he doubted even if he could give one. Fire, however, in buildings, and especially in domestic buildings, was a tragic question, and it needed the care and consideration which the able exponent of the subject had given it. He could not help being struck in the Committee-rooms of the House of Commons and the House of Lords, when this Bill for the amendment of the Act of 1894 was before those Committees, with the monotonous sameness of the testimony of every witness, whether for the Bill or against it, that something was necessary to be done. When those who were inclined to criticise the original clauses and proposals of the Bill came with nostrums and remedies for the defects which existed, nothing impressed him more than their final recognition of the fact that nothing which tended to save life in case of fire should be neglected. That indeed was the crux of the question: what provision should be made in a reasonable and practical manner to save life in case of fire. He was glad to see that there was no disposition to charge those responsible for the administration of the Amendment Act with the iron inflexibility which had been so much spoken of in the past. The Building Act of 1894 contained many positive and decisive clauses which gave the County Council and those responsible under it no

power to override the actual wording of the various clauses. That was possibly the reason why the Act was so unpopular. It was doubtless very easy to discharge another man's responsibility, especially when the consequences were left with the owner of the responsibility. He did not wish to weary them with statistics, but there were a few which he thought they ought to be possessed of. Everyone knew that the 1905 Act was due to the dreadful fire in Queen Victoria Street in June 1902. It would be remembered that the jury added a rider to their verdict saying that the Building Act of 1894 needed amendment in the direction in which that fire gave experience. The Home Office had just previously amended their Factory Acts, but the very first case tested under the Amendment proved it to be useless for its purpose. The Home Office made representations that the Building Act of 1894 was the Act which needed amendment. There were many fires previous to the promotion of the Bill which had great influence on the trend of the clauses. There were some which dictated the requirements with regard to domestic buildings over shops and premises of that character. From 1890 to 1904 there was a gruesome list of deaths. In November 1890 there was a fire in Cloth Fair which proved fatal to eight persons. In June 1896, at 187 Mare Street, Hackney, four persons lost their lives: that was an oil store. In December 1898, at 27 Clerkenwell Road, one life was lost: that was a twenty-person building, and would come under Section 9 of the Amendment Act. In November 1901, at 127 Judd Street, three persons lost their lives: that was an oil store. In April 1902, at 423 Hackney Road, seven lives were lost: that was a projecting shop. In June 1902, at 67 to 71 Queen Victoria Street, ten lives were lost: that was a twenty-person building, but it did not come under the Factory Act. In November 1902, at 72 Royal Mint Street, three lives were lost: that was a twenty-person building, and would come under Clause 9. In December 1902, at 25 Ben Jonson Road, six lives were lost: that was a projecting shop. In October 1903, at 356 Hackney Road, three lives were lost in a projecting shop. In February 1904, at 8 Duke's Head Passage, seven lives were lost: that would be a Section 9 building. And again, in October 1904, at 107 Judd Street, six lives were lost in a twenty-person building. The tale of these was fifty-eight. Then since the Act came into operation—and he had watched the statistics very closely—since 1st January 1906 twenty-seven lives had been lost in buildings coming within Sections 9, 10, and 12 of the Amendment Act, and 510 lives had been seriously endangered. Two hundred and sixty-eight out of the 510 left the buildings by other methods than by the ordinary means of escape; that is, they were either taken out by the fire escapes, by ladders, or they got out of the building by other means. It would be well that it should be known what the

Council had done in the past in these matters. Since they had had power, the Council had dealt with 400 theatres, music-halls, concert halls, and similarly licensed buildings. Then about 200 similar kinds of buildings had dropped their licences, after they had been dealt with. The Council had dealt with 400 common lodging-houses, 1,500 factories, and 150 buildings 60 feet high, the latter under Section 63 of the Act of 1894, and he was prepared to say that in none of the foregoing cases had a single life been lost by fire. In that list there were 2,250 buildings. He might give them one or two details of the experience obtained in factories dealt with under the Factory Act in which fires had occurred. Take, for instance, the case of the Incandescent Light Company at Westminster on the 20th May 1902, in which 100 men and 500 girls were employed. They all knew the extremely inflammable trade of incandescent mantle making; yet every one of the persons employed managed to leave the building without the slightest injury. At Hatcham Saw Mills, in December 1904, 150 persons left by means of the escape provided. At 11 to 15 Pownall Road on the 14th September 1906 ninety persons were in the building. At Lipton's, in Cayton Street, on the 17th September 1906, 250 persons left by means of the stairs provided. At 70 Old Street, on the 17th January 1907, forty persons left the blazing building without damage to themselves; and at Woodfield Road, Paddington, on the 4th November 1907, 150 persons escaped uninjured.

MR. SEAGER: May I inquire whether this was by means of the outside staircases?

MR. RILEY: By the means of escape provided; most of them had internal staircases. He should also refer to the letter recently sent to *The Times* by Sir Eyre Massey Shaw and Captain Wells in their report on hospitals. In that letter they suggested that the means of escape generally employed were the kinds of escape which should be expected in hospitals. From the small experience he had had of hospitals—and he had been asked by the Council to advise on several—he thought a hospital was an extremely dangerous building unless sufficient means of escape were provided. The poor, helpless patients lay there in bed, and must be carried out on stretchers, and unless very easy-going staircases were provided, the difficulty was increased. He thought that slopes of a fair inclination would be a great deal better in hospitals. He should like to say one or two words on the ventilating lobby question. This question had been a great difficulty to the London County Council and to everybody advising them. It was felt that in small buildings it would be rather a stretch of the word "reasonable" if two staircases were provided or asked for, but it was felt at the same time that to have but one door between the possible fire and the only means of escape from the building would be a

somewhat dangerous provision, and that led to an endeavour with the loss of the minimum of floor space to put two doors between a single staircase and the working floors. There was an illustration quite recently of the necessity of something of this kind, and he submitted that it was for architects to solve the difficulty if they could. One did not want to enforce upon owners the expense of providing an alternative means where floor space was so valuable, and he thought when the smoke lobby was devised it was a reasonable and a most economical solution of the difficulty. An illustration of what was required occurred on the 4th of April last at 28 Gun Street, where about forty persons on the top floor of a building possessing a concrete staircase with brick walls and hard-wood doors were prevented from using the staircase for escape owing to one of the staircase doors on the first floor being temporarily out of order just at the time when the fire occurred on that floor, and the majority of the forty persons were therefore not able to leave the building by the means of escape. After all, the Amendment Act was the evolution of professional opinion, especially in regard to the projecting shops, of the witnesses who opposed the Bill. He could not sit down without again repeating the great obligation he felt to Mr. Woodward for the temperate and courteous way in which he had referred to the County Council, and for the way in which he had treated the whole subject of escape from burning buildings.

Mr. MAURICE B. ADAMS [F.] said that, with regard to the escape stairways leading to automatically opening flaps or doors which were proposed by the reader of the paper in all domestic buildings in London, it occurred to him that in many cases they would tend very seriously to an increase of burglary. He had professionally to do with the provisions to prevent burglary in connection with one of the largest Metropolitan offices engaged in burglary insurance business, and it seemed to him that it would be a very serious thing to provide indiscriminately a number of iron emergency staircases or iron ladders on the tops of premises over which there must be an absence of proper control. A burglar would be able to escape along a whole range of buildings—in fact, almost a whole street—and down through, perhaps, an unoccupied house. Although he was entirely in accord with the necessity for providing every available means of escape from fire, there were undoubtedly objections to dealing with it in this particular way as suggested by Mr. Woodward.

Mr. JOHN SLATER [F.] said he felt quite sure that everyone would be agreed that the people who had the responsibility of protecting persons from death by fire must feel that responsibility very keenly indeed. Again, there was perhaps hardly a person in that room who had had occasion to go into certain buildings in various parts of London who had not come away feeling that they

were positive death-traps. He therefore had very great sympathy with the words that fell from Mr. Riley with regard to his responsibility. But there was undoubtedly a great deal of force in what Mr. Woodward said as to the inadvisability of laying down too hard and rigid lines. Which-ever way one looked at it—whether from the point of view of the building owner who wished to put up a building or who had to alter a building, or from the point of view of the County Council in this particular case who had to protect the inmates from fire—surely the safety of thirty-nine people or of nineteen people was very nearly as serious a matter as the safety of forty-one or of twenty-one, and he could not see the object of laying down rigid conditions like this when, whatever the condition laid down, it might operate as a hardship, or on the other hand might be evaded in a way which was almost criminal. Therefore he had come to the conclusion that, with regard to a very large number of the restrictions and conditions laid down by the Amendment Act, it would have been infinitely better to leave the matter in the hands of the County Council or of the District Surveyor to treat each individual case in the way it deserved, because one could not lay down rigid conditions which would fit everything. For instance, Mr. Riley had told them that the Council lay under very great difficulties with regard to carrying out the conditions of the 1894 Building Act because they had no power to vary them. Take the one instance of iron doors. Mr. Riley knew perfectly well that the iron doors were expressly specified, and that it was only in a very round-about side-issue way that he was able to allow what the Council authorities perfectly admitted were better doors for their purpose, the armoured doors. That was only one case of the extreme difficulty and inconvenience of laying down these rigid lines. Mr. Maurice Adams had undoubtedly touched upon a point of very great importance. Take the case of an hotel, with certain exits, and the regulations of the Council that these exits must be only protected by a bolt which could be opened with the slightest pressure from the inside. It was evident that anyone who could open a door without any supervision from the inside in order to get out, could open it for the purpose of letting people in, and in an hotel and in buildings of that sort no supervision whatever could be had over the property of the inmates if there was a means by which any dishonest servant could let confederates into the hotel who might be burglariously inclined. He thought that in respect of this Amendment Act and in respect of many clauses of the original Building Act, it was rather hard lines on an architect who tried in every possible way he could to meet the reasonable requirements—requirements which he admitted to be reasonable—that he was to have cast in his teeth the fact that he must be bound by

regulations which were made for the people who tried to evade them. That was the position in which they were sometimes placed. But before sitting down he should like to say that during the last two or three years he had on a very considerable number of occasions to go to the County Council, and he must testify to the extreme courtesy and consideration with which he had been met by all the officials there. He should like to support the vote of thanks which had been proposed, for Mr. Woodward's Paper was an extremely interesting one, and he had dealt with it in a manner which must have commended itself to all. One other point had been mentioned—viz., with regard to the pessimistic views of the Fire Brigade on some of the very large buildings which were being put up. With regard to these large buildings, it seemed to him that the position in which they were placed was one very considerable element in the consideration as to their danger. If there was a very large building surrounded by narrow streets where it was extremely difficult for the fire engine to get access, then the danger of that building was enormously increased compared with what it would be if it were surrounded by wide streets so that a fire could be attacked from all sides. That was a point which ought to be seriously considered.

MR. G. A. T. MIDDLETON [A.] said he should like to refer to the point raised by Mr. Maurice Adams with regard to domestic buildings, particularly those having eaves, to which Mr. Douglass Mathews had referred, and the difficulty of obtaining access to the roof, and protecting the roof so that it would be possible to travel from building to building. Might it not be possible there, instead of insisting upon access to the roof, to allow of an external balcony, say, at the level of the top floor? Could not just as easy a means of escape be made at that level as at the roof level?

MR. S. HURST SEAGER [A.] (Christchurch, N.Z.) said that in New Zealand they had gone further than the demands of the London County Council: they provided in all hotels and in all factories—all buildings in fact where any large number of people were congregated—a continuous balcony outside each row of windows. All these balconies were connected by iron ladders, and on the lowest story was a ladder which was slightly suspended, so that those who got on to the lowest balcony could easily release the catch and get to the ground. He did not know whether that had been done in London.

THE CHAIRMAN: At the Savoy Hotel you can see it.

MR. S. HURST SEAGER said he had not been there, but in all other hotels and in the one where he was staying there was no such provision. They found it work remarkably well in New Zealand. It should not be optional, but the provision of such a means of escape should be demanded and enforced. In that case there would

be no jamming in staircases, no rushing for one particular outlet; every person had a ready means of outlet from his room to the outside balcony, and so to the street. There was one other point which struck him in reading the London County Council conditions, and he listened carefully to see if any reference would be made to the omission by Mr. Woodward. It seemed to him that in demanding simply certain widths and a certain number of exits a very important omission was made in that there was no provision for preventing blocking at those exits. He had noted this defect twenty years ago, and had commented upon it in the New Zealand papers. Every fire since had only strengthened his view that all the danger lay in the blocking of that exit, whatever its width might be. It would be remembered that in the fire at Chicago the greatest number of deaths took place in a straight corridor some 11 or 12 feet wide, and simply because the architect there had put slight projections on the side of the walls; consequently the human mass in moving along formed, as it were, a living arch, and the people were consequently crushed to death by the pressure which was created by those pushing behind. The same thing might occur at the exit doorway. They had only to look—not at the people coming out in an orderly manner from the various places of entertainment, but they could take an example from people trying to get in in a hurry, and they would find that with a three feet opening seven or eight people were sufficient to block the entrance. The work of architects was to avoid such a possibility of pressure. Without resistance there could be no pressure, and he had devised a method by which a very considerable amount of that pressure was relieved, viz., by putting curved pieces to the doorway, so that the people coming to the doorway from opposite directions would not have the pressure directed against each other; the pressure would be brought on to the curved surfaces, which offering no resistance would enable the people to be gently pushed into the street by those behind. That people in a crowd were carried off their feet was literally the fact, and they had to regard people in the mass trying to get out of a fire, not as living beings having power over their actions, but simply as a mass of people who had no option at all. If there was any resistance there was bound to be loss of life. That seemed to him the most important point to which they as architects should direct their attention, namely, devising methods by which there might be no blocking of the exits. That was a point which the London County Council had as yet taken no heed of. He had a system which it was too late to bring before them that evening, but he hoped to have some other opportunity of doing so.

THE CHAIRMAN said that there was no self-respecting person in London who did not agree with the principle of the Act, and it was perfectly

fair to say that architects, who had not only to consider their responsibility as citizens, but their responsibility as professional men and to their clients, were most scrupulously anxious in designing their buildings to make every provision which was necessary for the escape of persons in the event of fire. He must confess, however, that he was at one with Mr. Woodward in desiring that regulations on the subject should be as elastic as possible. Very frequently, as Mr. Riley had shown, difficulties arose because no discretion was left to anybody, and if there was a proper appeal he thought it would be infinitely easier to deal with the County Council than with the strictly defined words of an Act of Parliament. There were, however, some points in the present Act which he spoke of when giving evidence before the Parliamentary Committees, and which he could not possibly now see his way to commend; for example, the necessity for escape to the roof in a detached house standing in an acre of land. He could not imagine what value there was in it, and it astonished him that that had not been cut out. Who would dream in a house on Hampstead Heath or on Sydenham Hill of going up to the roof of the house when on fire? It was an unnecessary expense to which to put an owner; and also in some cases it was not necessary to insist upon having a staircase, even when there were twenty people in a big house. If there were two staircases, a back staircase and a front staircase, and possibly some other means of escape, it was not necessary in such circumstances to have an iron staircase; it was very often a source of great trouble, and in a place such as he had described such a staircase was most inviting to burglars to go up, and not only to burglars, but to other persons to visit bedrooms where they had no business to be. Mr. Riley had given them a very interesting list of fires where death had resulted, but these related very often to dangerous trades or dangerous premises, and it might be quite reasonable to make laws which should affect such businesses and such dangerous premises, but not to apply to the new buildings which were being constructed in these days of different materials and with different surroundings. He thought that in such cases there might be much greater elasticity. With regard to the ventilating lobby he could not help feeling that there was a much simpler way of getting out of that difficulty. In the case of a factory building or one in which many people were employed, if, instead of having wholly-glazed windows to the staircase, the opening were only glazed half-way up, there would be no danger whatever, because if any fire or smoke got into the staircase it would have an opening to go out by immediately. Personally he had built some large factories in London and he had invariably made his staircases in that manner. The doors would open out to the staircase, and if the window was half glazed and half unglazed every protection was afforded, and there could not under

any circumstances in such a staircase be danger to the persons escaping. The ventilating lobby with its double doors was a much worse thing than if they had simply single doors leading on to the landings. If the suggested practice were adopted he thought it would be an improvement. With regard to the recent hospital report, it might be most useful as a report on the particular hospitals visited, but Mr. Riley would know that every modern hospital was built in the way the report wanted it to be built. He could speak, at all events, from experience; he had put up hospitals all over the country, and he had never built in any other way. They had fire-escape staircases at both ends, fire hydrants all over the place, and everything else, and he should have thought it was the A B C of hospital construction to make such provision. Take the Metropolitan Asylums Board, the largest builders of hospitals in London, there was not a modern hospital of theirs that was not so protected, and had been ever since the Board had been building. With regard to Mr. Seager's suggestion, balconies were, of course, an excellent means of escape from fire, but they were very objectionable from other points of view. A burglar had only to hire a room on one floor to have access to every room in the place when the inmates were out, and they must remember that when legislating against fire there were other dangers to be guarded against. Sometimes it may be said in criticism of the architect that he could make a better provision for fire escape, but it was because of the other dangers which were in themselves almost, if not quite, as important that he did not perhaps do that which was looked upon as ideal from one narrow point of view. He had made these few observations, but he joined with Mr. Slater in saying that his experience of the London County Council had always been that they were reasonable if the case was properly laid before them. If one found initial difficulties he should go to headquarters, when there would be no difficulty in getting any reasonable proposal considered, so far as it could be within the Act. Therefore he cordially supported all that Mr. Woodward had said with regard to the care and attention which was given by the London County Council when matters came before them.

Mr. WOODWARD, in responding to the vote, replied to points raised during the discussion. Mr. Douglass Mathews, he said, had referred to the fact that notices had been served in some cases and nothing had been done; but they should all agree that the London County Council in dealing with this measure had dealt with it in an elastic fashion, and had endeavoured to deal with each case on its merits; and he was quite sure that they, as the Royal Institute of British Architects, would thoroughly agree with that method of procedure. Mr. Riley's statistics were very interesting, and he was much obliged to him for the encomiums he had passed upon the Paper. He had endeavoured

to present both sides of the case, because he felt that they had only to see the charred remains of a fellow-creature to have a very different view from that which they previously held as to the provisions to be made to enable persons to escape from fire. Mr. Slater had emphasised the need for the abolition of the hard-and-fast line. They must have confidence in some authority; and if the constituted authority would only act in a reasonable manner, and cease to regard the Act as applying to *every* building, all friction would be at an end. It was, of course, useless to provide a means of escape in case of fire to the roof of a house in an acre of land. It reminded him of an hotel he had something to do with at Buxton. The authorities would not agree to the opening of this hotel until provision was made by an iron staircase to get on to the roof. That hotel was in the centre of a very large area of land, and at considerable cost they in order to comply with the requirements of the local authority provided this iron staircase. When the work was completed he had to answer the questions of the chairman, a retired lawyer: "Now, Mr. Woodward," he said, "you are perfectly certain you have provided all the necessary means to get on to the roof." "Yes, we have," he replied. "Then," said the chairman, "will you kindly tell me where you

will get to when you have got on to the roof?" That was a poser: the building was too high for a fire escape, and there was probably no fire escape near, and after having expended a considerable sum of money in getting on to the roof he was bound to confess that he did not know how to get off it! Mr. Middleton had referred to external balconies: these had been provided on the different floors in many cases, but that could only be done with the assent of the adjoining owners, and the difficulty was to get that assent. They had all been pleased to hear what had been said by their friend from New Zealand, Mr. Hurst Seager. His remarks with regard to the pressure on openings must commend themselves to every one, and his suggestion of these curved angles at each door might very profitably engage the attention of the London County Council. The Chairman's suggestion of the half-glazed windows was a very good one, because that would remedy the evils resulting from smoke. He was very much obliged for the patience with which they had listened to what might have been, and nearly always was, a dry subject, and he hoped on some future occasion he should have the pleasure of giving them his experiences still further of the working of the Amendment Act of 1905.



9, CONDUIT STREET, LONDON, W., 21st December 1907.

## CHRONICLE.

### H.M. Office of Works and Reinforced Concrete.

The following correspondence has passed between H.M. Office of Works and the Council of the Institute:—

*H.M. Office of Works, Storey's Gate, S.W. :  
31st July 1907.*

SIR,—I am directed by the First Commissioner of His Majesty's Works, &c., to state that this Department is informed that in the opinion of the Local Government Board buildings constructed in ferro-concrete are likely to prove less durable than those of bricks and mortar, and that that Board are re-arranging accordingly the rates at which money is to be advanced for the erection of the first-mentioned class of building.

In view of the foregoing I am to say that Mr. Harcourt would be much obliged if you will be good enough to favour him with the opinion of the Royal Institute of British Architects on the subject.—I am, Sir, your obedient servant,

J. FITZGERALD.

*The President R.I.B.A.*

The foregoing letter was referred by the Council to the Science Standing Committee, and the Committee's report will be found embodied in the following reply of the Council:—

*9th December 1907.*

*To the Right Hon. Lewis Harcourt, M.P., First Commissioner of Works,—*

SIR,—The Council of the Royal Institute have had under consideration the letter of the 31st July addressed by His Majesty's First Commissioner of Works to the President, stating that, in the opinion of the Local Government Board, buildings constructed of ferro-concrete are likely to prove less durable than those of bricks and mortar, and that the Board are, accordingly, re-arranging the rates at which money is to be advanced for the erection of the first-named class of buildings, and requesting the opinion of the Royal Institute of British Architects thereon.

I am directed by my Council, who have adopted the report of the Science Standing Committee to whom the letter was referred, to write as follows:—

The First Commissioner of Works is no doubt aware that the extensive use of reinforced concrete and the exceedingly important part it plays in modern buildings led this Institute to appoint a Committee to consider and report on the subject, and to draw up regulations embodying the essential requirements for permanence and stability. The Institute invited the co-operation of other bodies in the work of investigation, and His Majesty's Admiralty, the War Office, the Institute of Builders, the District Surveyors' Association, and the Association of Municipal and County Engineers were also represented.

This Committee, of which Sir Henry Tanner, of His Majesty's Office of Works, was Chairman, Col. Mayne, R.E., of the War Office, and Professor W. C. Unwin, F.R.S., Vice-Chairmen, after many meetings and discussions drew up a unanimous report setting forth the conditions under which reinforced concrete should be used, and found that under those conditions such work is trustworthy, and that decay of the metal is not to be feared.

This report was adopted at a General Meeting of the Institute specially called to consider it. A copy is sent herewith.

It is impossible to place before the First Commissioner of Works any report of the discussions of that Committee, but some observations on the relative durability may be permitted.

All materials are subject to decay by the influence of the weather, time, and use, bricks and mortar being no exception to the rule.

Improperly made bricks or mortar perish rapidly, and brick buildings are specially subject to fracture from unequal settlement of foundations, or the movements of the soil due to the alternation of wet and dry seasons.

Few buildings are constructed wholly in bricks and mortar; and the wood and iron employed for the floors, lintels, beams, and story-posts, &c., by their decay also produce further destruction.

The dilapidations due to these causes are brought before the architect every time he makes a survey of an old building, and the desire to increase the strength and durability of his work has led during the last fifty years or so to the employment of iron and concrete for floors, roofs, lintels, and other parts on a constantly increasing scale.

The development of this type of construction from simple uses for parts of buildings to its employment to-day for complete structures of all sorts, road and railway bridges, sewers, water mains, reservoirs, jetties, piles, dock walls, coast protection, warehouses, and other buildings, &c., by Governments, municipalities, railway and dock companies, and private owners has been slowly built up step by step by practice and experience.

aided in later years by scientific research, which research in foreign countries has been largely undertaken by the initiative and at the expense of the State.

Concrete (largely employed by the Romans for buildings still existing) is employed to this day in great works requiring undoubted durability. As an instance, we may cite the dams for the reservoirs in the Elan Valley recently constructed for the Birmingham Corporation, work on a large scale which no one would rate as less durable than brick or masonry or indeed otherwise than having an indefinite length of life.

The old concrete had lime as a matrix. Concretes employed for reinforced concrete work are now universally made with Portland cement, a material which is no longer manufactured in an empirical manner, but prepared with all the care which chemical science and highly skilled technical knowledge can bring to bear on it. Its strength and durability are therefore greater and more reliable than heretofore.

Unsuitable material or unskilled preparation in concrete, as in brick or mortar, will undoubtedly lead to failure, but it is to be assumed that proper supervision during construction is employed in concrete structures as in brick, or iron, or steel.

It is sometimes thought that the metal may perish, but all experience shows that concrete is the best preservative for iron or steel known to us. A bar of iron or steel slightly rusty embedded in properly made concrete may be taken out after some months, or after hundreds of years, brighter than when it was put in. Perhaps I may quote an instance—the experience of Mr. Somers Clarke, late Surveyor to St. Paul's Cathedral, who, being anxious as to the condition of the great chain tie which binds the dome at its base, caused an opening to be made in the concrete in which it has been embedded for over two hundred years, and found the iron bright and perfect, notwithstanding the fears which had naturally been felt because of the percolation of water from the gallery over it. This is but one of many examples, showing not only that metal reinforcements and concrete have been used by architects for many years back, but that their confidence in the durability of concrete and metal in combination is justified.

The many instances of the anchor chains of suspension bridges being embedded in concrete as a provision against their deterioration through the action of moisture may also be cited as showing the reliance placed on concrete by engineers for the protection of steel from corrosion.

It is sometimes thought by those who have not studied the question that the lightness of reinforced concrete work, upon which its economy depends, and the small covering of the bars are dangers which time has not yet proved unreal. As showing its durability even in trying cases we may instance the inquiry made by the city of Grenoble in 1901

into the condition of the reinforced concrete water-pipes laid down by the city in 1886. These pipes at the date of the inquiry had been in use for fifteen years. They are of 12 inches diameter,  $1\frac{1}{8}$  inch thick, with reinforcements of  $\frac{1}{4}$ -inch and  $\frac{3}{8}$ -inch diameter. They have required no repair since made, having during that time resisted, and still resisting, without any fissuring or trace of oxidation of the metal or flaw of any kind, a head of water of many feet.

There appears to us to be no more reason to doubt the durability of reinforced concrete in the walls, columns, floors, and roofs of buildings, and basement walls in damp situations, than in retaining walls, piled jetties, bridges, and other engineering structures.

There is also every reason to believe that it is as durable as brickwork or masonry for tanks, reservoirs, and similar structures, resisting the pressure of water under moderate heads, even if there be a slight sweating of water through the concrete, providing the metal is carefully embedded and thoroughly surrounded with concrete of a moderately wet consistency, and especially if the embedded metal has been washed over with a cement grout before being placed in it.

A still more severe test is afforded by works in sea water or works in tidal waters, and by bridges, the piers and abutments of which are exposed to abrasion by running waters. Constructions such as these are more in the province of the engineer, but their behaviour and the opinions practically shown by engineers in ever increasing the use of reinforced concrete are evidences of which we take account.

Though innumerable buildings in England have parts, such as floors, roofs, and lintels, in reinforced concrete, comparatively few have been executed entirely in it, one reason being the difficulty of securing a good artistic result, and another reason that our building by-laws, which fix the thicknesses of walls in nearly all cities, towns, and urban districts, prescribe certain minimum thicknesses for concrete walls, and no reduction is allowed even if strengthened by steel reinforcements. Accordingly there is no advantage gained by the use of reinforced concrete for walls except in the case of railway and dock companies and Government departments not under the control of local authorities. Such bodies have built and are building largely in reinforced concrete.

My Council would call attention to this strange anomaly of public authorities, which employ an economical method of construction and yet practically debar the private citizen from also using it under powers which are conferred for the protection of the public interest.

The accidents and failures which have occurred in reinforced concrete works have not arisen from a want of durability, but have almost invariably taken place when the centres are struck, as,

contrary to experience in other materials, the strength of concretes increases with age. Improper materials and imperfect design which produce failure after completion would equally produce failures in other materials.

My Council are of the opinion that works in reinforced concrete which comply with the requirements laid down in the Report of the Committee appointed by this Institute are at least as durable as brick or stone buildings. They think that any rearrangements of the rates, as suggested in the proposal of the Local Government Board, which would limit the period of loans for reinforced concrete work to less than the period for brickwork would be a mistake, resulting in this country being largely debarred from the advantages of modern and more economic methods of construction employed, not only by foreign countries, but by bodies not requiring the consent of that Board or free from the control of building by-laws.—I have the honour to be, Sir, your obedient servant,

W. J. LOCKE, *Secretary*.

The following acknowledgment has been received from the Hon. Sir Schomberg K. McDonnell, K.C.B., Secretary to H.M. Commissioners of Works and Public Buildings:—

*H.M. Office of Works, &c., Storey's Gate, S.W.:  
11th December 1907.*

Sir,—I am directed by the First Commissioner of His Majesty's Works, &c., to acknowledge the receipt of your letter of the 9th instant, and I am to express to the Council of the Royal Institute of British Architects the thanks of Mr. Harcourt for the valuable report upon reinforced concrete construction with which they have been good enough to furnish him.—I am, Sir, your obedient servant,  
SCHOMBERG K. McDONNELL.

*The Secretary R.L.D.A.*

#### Mr. Locke's Retirement from the Secretaryship.

There was a good attendance of members at the General Meeting of the Institute last Monday, and the Chairman, Mr. Edwin T. Hall, *Vice-President*, took advantage of the occasion to say a few words on Mr. Locke's approaching retirement from the Secretaryship. Addressing the Meeting, Mr. HALL said: Gentlemen, before we begin the main business of the evening, I should like to draw your attention to the fact that this is the last general meeting of the Institute at which Mr. Locke will attend as Secretary. As I explained to you at the last Meeting, Mr. Locke has resigned his position in consequence of, I may say, the great success he has attained in another branch of art. (*Hear, hear, and applause.*) I thought you would like at a general meeting of this sort to take leave of him as Secretary, because you will not again have the

opportunity of meeting him here in that capacity, though we hope we shall frequently see him as a visitor. It is hardly necessary for me to make any lengthened reference to Mr. Locke's connection with us; but perhaps it would be fitting for me briefly to touch upon it. He has been with us now nearly eleven years, and, sparing his blushes, I know you will all agree that he has been a most able and courteous Secretary. (*Hear, hear.*) He has been very helpful to us all, and has made himself personally liked by everyone who has come in contact with him. (*Hear, hear.*) But the inevitable has arrived; he must leave us in order that he may shine with brighter light in another sphere. We should not like him, however, to go away without his feeling that this General Meeting, and every General Meeting of the Institute that has assembled here for some years past, has appreciated his work. Members would desire, I am sure, that I should tell him on their behalf that they wish him the very greatest success in that literary branch of art which he has chosen, which he has made his own, and in which he has achieved conspicuous success. (*Hear, hear.*) Therefore, on behalf of all, I would like to wish him every success in the future; we hope we shall see him shine with a very bright lustre, and we shall all be very interested in watching his career. (*Hear, hear, and loud and continued applause.*)

Mr. LOCKE, who on rising was warmly cheered, said: Mr. Vice-President and Gentlemen, it is not without some emotion that one rises to take leave of a body with which one has been connected for so many years as I have been with the Institute as Secretary. It has been a most valued privilege to me as an outsider to come into the very midst of a great profession—to see it in all its aspects, artistic, professional, and social, and to feel that in a kind of way the whole of the profession revolved round me, as the wheels revolve round the axle. It has taught me a great many things; it has brought me into contact with men, which naturally will be of great use to me in the other profession which I have followed and which I am going to follow exclusively henceforward; and it also has brought me a great many friends ever since I came here, a total stranger, nearly eleven years ago. I have been received by everybody, from the President of the Institute to the most newly joined Associate, both here and in the provinces, with uniform consideration, kindness, and courtesy; everyone has held out the hand of friendship; and therefore to leave you now is a matter of great regret and considerable pain. I thank you all for the years you have made so pleasant to me, and I thank you, Sir, for the kind and flattering remarks you have made about my career; and I hope, though I am no longer able to serve you as your Secretary, perhaps by my poor efforts in other directions I may still be able to minister to your edification. (*Hear, hear, and loud applause.*)

### The Flashlight Advertisement Nuisance.

The following letter has been addressed to the Institute:—

14 Buckingham Street, Strand, W.C.

The plague of flashing electric light advertisements and sky signs in our cities at night is on the increase, and seriously threatens the beauty and impressiveness of London, destroying architectural scale and dignity, and vulgarising many of the most striking and interesting spots of our Metropolis. We have recently protested in the public Press against the vandalism of a prominent firm in spoiling a splendid river view by defacing the shot tower by an illuminated advertisement.

The chief offenders in this way are a few large well-known firms, and it becomes a question vital not only to artists, but to everyone who values the architectural beauty and artistic aspects of London, how long we are going to tolerate these insults to the eye. Why should a few pushful firms be allowed to trample on public rights of vision?

There is, however, a worse danger in allowing their continuance, and this is the quite real danger: that the public, growing accustomed to such intrusions, might, from enduring, actually grow to like these dazzling deformities.

We would respectfully urge that united action should be taken on the subject, and beg to suggest that if your powerful and influential body would co-operate with other distinguished artistic associations and the leading societies for the protection and preservation of the public rights in the beauty of historic buildings and places, this gross abuse of advertising could be restrained in the true interests as well as the dignity of the nation by effective legislation.—We have the honour to be, yours obediently,

WALTER CRANE, JOSEPH PENSELL, J. KERR  
LAWSON, T. FISHER UNWIN, SIDNEY LEE,  
D.C.L., HENRY B. WHEATLEY, F.S.A., JANE  
CONDON UNWIN, OSCAR BROWNING, THOMAS  
SECCOMBE, J. F. GREEN, G. H. RADFORD,  
M.P., CAPT. THE HON. F. HEMPHILL (Deputy  
Chairman L.C.C.), SIR ROBT. H. HUDSON,  
GEORGE WHALE, A. H. SPOKES, K.C.

The Council have referred the matter to the Art Standing Committee for consideration and report.

### VIIIth International Congress of Architects, Vienna, 1908.

The following announcement has been published concerning the exhibition to be held in connection with the International Congress of Architects, Vienna, 1908:—

"(A) In response to the repeated wish expressed by foreigners, photographs will be permitted as supplementary exhibits, though it is particularly requested that where possible large pictures of decorative treatment be contributed. (B) It is

very desirable that an artist should supplement an exhibit by a book or portfolio containing an illustrated collection of his other executed works. (C) The 'special conditions' must in all cases agree with the 'general conditions.' (D) 4th May 1908 is the date on which works of art must be delivered in Vienna at the K. K. Gartenbaugesellschaft, Parkring 12."

### A Technical Bureau for Architects.

Particulars are to hand of the formation of an institution to be known as "The Architects' Technical Bureau." Its object is to give expert advice on the many technical requirements of the profession, to supply trustworthy information on new methods of construction, on building materials and appliances, on manufactured goods, and on other matters which architects as a rule can only become acquainted with through the medium of circulars and manufacturers' travellers. The affairs of the Bureau are to be administered by an Advisory Committee of Architects, representing both London and the Provinces. The Committee at present consist of ten members, of whom nine are Fellows of the Institute—viz.: Messrs. G. Bertram Bulmer (Leeds), Alfred W. S. Cross, M.A., H. L. Goddard, M.A. (Leicester), George Hubbard, F.S.A., Paul Ogden (Manchester), William A. Pite, H. D. Searles-Wood, Edwin Seward (Cardiff), and Keith D. Young. The work of the Bureau will include the carrying-out of scientific and practical tests on materials, specialities, systems of construction, and new inventions associated with building operations. Experts are to be retained to advise on constructional and technical subjects and on legal and such other matters as affect architectural practice. In the Local Materials Department information will be centralised regarding stone, brick, tiles, slates, lime, cement, &c., in various parts of the country, and a standard selection of samples will be available. Copies of the Building By-laws in force in each town and locality will be kept in the Library. Assistance would be afforded to subscribers in obtaining particulars of the site in important competitions that are advertised—information, for instance, regarding aspect, adjoining property, principal roads, accessible materials, and the supply of photographs of adjacent buildings. It is stated that the movement is being well supported, and that the Bureau has already five hundred subscribers. The offices are at 11 Bloomsbury Mansions, Hart Street, W.C., and the Secretary Mr. W. Barker.

### Preservation of Crosby Hall.

The question of the preservation of Crosby Hall was again under consideration at the London County Council meeting last Tuesday. A report was presented by the Local Government Committee stating that, after the discussion which took

place when their report was considered by the Council on 3rd December [see JOURNAL, 7th December, pp. 111 and 112], and as the result of negotiations, they had ascertained that the Government, being anxious to co-operate in the movement for the preservation of Crosby Hall, would be prepared to consider a scheme under which the hall itself might be used for housing the commercial library of the Board of Trade, which the Board were anxious to utilise with greater profit to those commercial interests which were centred in the City of London. It had been subsequently ascertained that the Board would, in addition to using Crosby Hall itself, desire to obtain in the immediate vicinity other accommodation for purposes closely associated with those just mentioned. These negotiations found definite expression in a letter received from the Board of Trade on 13th December. The Committee felt that the action of the Board introduced a new and important element into the consideration of this question: a substantial tenant, presumably willing to take the property for an indefinite period, was assured, and under conditions which would give that access to the historical building which the Council and the public required.

In the negotiations which had taken place and at the conference last Monday the Committee thought it had been made clear that further proceedings would be rendered practically impossible if the Council adhered to the exact terms of its resolution of 3rd December. The Committee maintained the position which they took up at the outset. Whilst they were not prepared to recommend that any charge should be thrown on the rates in respect of the purchase of Crosby Hall, they realised that if they were to negotiate successfully with the directors of the bank and others concerned, a certain sum of money would have to be raised as part of the purchase price. The Council could hardly ask the City Corporation and others to join in a movement of that character unless it was prepared to act with them on equal terms. They had therefore decided to ask the Council to waive the conditions under which any scheme must avoid the incurrence of capital expenditure. They were not without hope that if such an alteration was made in the resolution of 3rd December they might be able to negotiate satisfactorily with the bank directors, the Government, the City Corporation, and the Preservation Committee, and ultimately to submit, for the consideration of the Finance Committee and of the Council, proposals which, while avoiding any charge upon the rates, would secure the preservation of the hall on its present site, and at the same time result in the acquisition of a centre of commercial information which would be of the greatest advantage to London. Various alternative sites were under their consideration, but they were not in a position to report on them, nor would it be desirable for them to do so until after the views of the bank

directors had been ascertained. The fact that that meeting of the Council was the last meeting before the recess was their justification for approaching the Council at such short notice; and, further, the bank directors had made it quite clear to them that some definite proposal from a responsible authority must be submitted to them immediately if they were to refrain from demolishing the hall. They recommended:—

"(a) That the resolution of 3rd December 1907, with reference to Crosby Hall, be rescinded.

"(b) That the Local Government, Records, and Museums Committee be authorised to ascertain whether the Corporation of the City of London will co-operate with the Council in securing the site of Crosby Hall, and whether the Crosby Hall Preservation Committee will obtain the consent of the subscribers to the preservation fund to transfer their subscriptions to the Council in order to assist in carrying out the scheme which may be hereafter agreed upon; that the Chartered Bank of India, Australia, and China be informed of the strong desire of the Council and the City Corporation to preserve the hall on behalf of the public, and of the assistance which the President of the Board of Trade is prepared to render in the matter, and be invited to surrender their purchase of the whole or part of the site on suitable terms to be agreed upon; that the Local Government, Records, and Museums Committee be authorised to enter into such negotiations with the various authorities and persons concerned, as may be necessary to provide a complete scheme for the preservation of the hall, and that the scheme shall not allow for any charge being made upon the rates, and shall be reported to the Finance Committee and be submitted to the Council for its approval and sanction before the Council is committed to any action thereon."

The recommendation to rescind the resolution of the 3rd December [JOURNAL, 7th Dec., p. 112] was carried.

On the second recommendation, on the motion of Lord Midleton, it was agreed to add after the words "Museums Committee" the words "in consultation with the Chairman of the Finance Committee."

It was further resolved by 59 votes against 49 to add after the word "rates" the words "shall be conditional on the City Corporation being willing to co-operate in providing the purchase-money."

## ARCHITECTURAL REFINEMENTS.

Palais du Trocadéro, Paris : le 14 Déc. 1907.

À M. le Rédacteur du JOURNAL R.I.B.A.,—

MONSIEUR,—Une polémique entre deux de mes amis, M. Goodyear et M. Bilson, vient de paraître dans votre estimable Revue, et le premier de ces messieurs m'a fait l'honneur d'invoquer mon nom conjointement avec celui de M. Choisy à l'appui des idées qu'il professe sur les déformations intentionnelles de l'architecture au moyen-âge.

Je vous serais reconnaissant si vous vouliez bien accueillir dans votre revue les quelques lignes que je vous adresse, car je désirerais vivement éviter que vos lecteurs me considèrent comme un partisan des idées de M. Goodyear, qui, à mon avis, a généralisé des remarques qui ne doivent s'appliquer qu'à un petit nombre d'exemples, et s'est mépris sur la portée d'autres constatations.

Je ne rétracte aucunement ce que j'ai dit dans le passage cité par M. Goodyear à la p. 20 de votre numéro du 9 novembre, car, dans les exemples que je cite, les déformations sont régulières et de nature à produire un effet qui a son intérêt ; les supposer intentionnelles n'est point absurde. Il en est tout autrement d'autres cas et surtout de ceux où la cause fortuite des déformations est évidente : à Notre-Dame de Paris, poussée des voûtes et affaissements du sol humide ; à Pise, affaissement simultané de la tour et de la partie voisine de la cathédrale, par suite de la même dépression du sol ; à Saint-Quentin, malfaçons, etc. Voici, du reste, ce que j'écrivais l'an dernier à M. Bilson :

"J'ai la plus grande estime et la plus grande sympathie pour M. Goodyear, et il a publié des travaux pour lesquels j'ai aussi une grande estime, mais il m'est impossible de me rallier aux conclusions qu'il a dernièrement émises au sujet des déformations intentionnelles de l'architecture du moyen-âge. J'ai dit au commencement de mon *Manuel d'archéologie française*, dès avant ces publications, dans quelle mesure je crois à ces 'refinements' et à ces déformations voulues, qu'il faut, c'est ma conviction, limiter à un très petit nombre d'applications ou à un très petit nombre d'édifices. En aucun cas, je ne saurais admettre la manière de voir de mon ami M. Goodyear au sujet de l'église de Saint-Quentin et de la cathédrale d'Amiens, dont l'histoire est connue, et contredirait ses conclusions, à supposer que l'examen seul de ces édifices n'y suffise pas. Dès longtemps je le lui ai dit—et je vous autorise à répéter—que telle est ma conviction absolue, et que je suis pleinement d'accord avec vous comme avec mon confrère et ami M. Georges Durand sur la façon dont il convient d'expliquer les déformations de la cathédrale d'Amiens."

En vous remerciant d'avance si vous voulez bien publier cette lettre, je vous prie, Monsieur, d'agréer l'expression de ma considération la plus distinguée.

C. ENLART.

23 Rutland Square, Edinburgh :  
9th December 1907.

To the Editor JOURNAL R.I.B.A.—

SIR,—In your issue of 23rd November Mr. E. S. Prior asks for a guide to the essential points of Mr. Goodyear's theory. Before me lies an *Architectural Review* for February 1906, an article in which I can recommend as excellent for the purpose. I extract one sentence from it. "His [Mr. Goodyear's] are the first steps to a scientific understanding of what his measurements and photographs triumphantly show to be accessory to so much of the ancient beauty of architecture." The writer of the article appears to be Mr. Prior himself.

Instead of controversy as to extreme limits of Mr. Goodyear's theories can we not rest on such solid ground as that? May we not without labelling ourselves as partisans be grateful to Mr. Goodyear for calling attention to facts of high interest hitherto neglected? It is not necessary to accept all Mr. Goodyear's explanations of these facts, but the actual phenomena are there, and most of us will acknowledge that we never realised the whole significance of them till we came across Mr. Goodyear's researches. Irregularities we all saw; but how many of us noticed those strange regularities in irregularities which involve the closest correspondence in varying parts of the same building—*e.g.*, opposite arcades or diminishing height of arch crowns? Not I for one. My own feeling is that everyone interested in building has had opened up to him by Mr. Goodyear's work a new and deeply interesting sphere for observation.

Mr. Prior of all men would, I should have thought, appreciate this. The other day I made a little pilgrimage to his church at Monkwearmouth, and if ever there were refinements (but not with a big R please, Mr. Printer) they are there. In the exterior a splendid choice and treatment of material, so that the church looks almost like one of the rocky headlands of the coast it stands on, and a fine harmony of colour between walls and roof. In the interior a use of principal arches in the nave, which is of much significance, and a masterly effect gained by the converging arches across the transepts with a tapering chancel. Is it impossible to conceive that what Mr. Prior does in one way with intention and success the earlier men with all their wealth of tradition and skill of workmanship did in others? And are the two really so far apart? I do not believe it, and I think everyone ought to look into the facts Mr. Goodyear has got together, and later on they may accept or reject his theories.—I am, Sir, yours faithfully,

F. W. DEAS.

## LEGAL.

## Architect : Negligence : Damages.

KEYSER P. TRASK AND SONS AND ANOTHER.

This was an action heard in the King's Bench Division before Mr. Justice Darling and a Special Jury on the 5th, 6th, and 9th December, to recover damages for alleged breach of contract, or in the alternative for negligence.

Mr. Acland, K.C., Mr. Morton-Smith, and Mr. H. P. Colman were for the plaintiff; Mr. Foote, K.C., and Mr. C. A. S. Garland for the defendants Trask and Sons; Mr. Salter, K.C., and Mr. G. Stuart Robertson for the defendant Webb. The following report is abstracted from *The Times* of the 6th and 10th December :

Mr. Acland in his opening statement said that the plaintiff, Mr. Charles Edward Keyser, desired to build a chapel for the Freemasons' schools at Bushey, and he employed the defendant, Mr. Edward Dorau Webb, an architect, of Salisbury, to prepare the plans and estimate. Mr. Webb was aware that the walls were to be painted by Mr. Newman, a well-known mural painter of ecclesiastical subjects. The plaintiff entered into a contract with Messrs. Charles Trask and Sons, builders, of Norton-sub-Hamdon, in Somerset, who were to build the chapel to the satisfaction of Mr. Webb at a cost of £5,906. The walls, it was complained, had been so badly built that they leaked so as to destroy Mr. Newman's paintings. The specification provided that the walls were to be of solid brick, with a flint facing, and to be brought to a surface fit to be painted upon, the plastering to be executed in good chalk lime. The work was commenced in May or June 1900. The architect had undertaken to superintend the execution of the work, and the plaintiff claimed that it was the architect's duty to exercise proper supervision to prevent scamping, but that he had not done. In 1904 the damp began to show itself, and the paint peeled off Mr. Newman's paintings so that they were ruined. It was then discovered that the wall was not of solid brick, but contained a quantity of rubbish.

The plaintiff gave evidence in support of his counsel's opening. In cross-examination, he said that he supposed Mr. Webb must have been satisfied, else he would not have given the final certificate. The final payment was in May 1902.

Mr. Andrew W. Anderson, an architect, of Watford, stated that the walls were stripped under his supervision. The paintings had suffered from damp, and he found that flint chippings, broken brick, and ground ashles, without any bond, had been put into the walls, which were so built that the water could soak in and remain there. The interior of the wall was filled with water.

In cross-examination he said that it was not possible to have perfect contact between the bricks and the flints, and the space ought to be filled up with flint chippings and mortar.

J. H. Munlay, the foreman on the job, stated that as soon as they took the flints off the outside the rubbish fell out on the scaffold.

Mr. Philip H. Newman, the artist, said that chalk lime, if dry, afforded a good surface for painting. He thought a period of two years was long enough for it to become dry. His attention was called to blotches which were due to moisture, and ultimately the paint flaked off. The damage to the paintings was due to the wet getting through the walls. The minimum damage was £200.

At the close of the plaintiff's case,

Mr. Foote submitted that there was no case against the builders, as they had satisfied the architect.

The Judge declined to stop the case, as that point could be raised after the verdict.

Mr. Foote, in addressing the jury, submitted that where a contractor had done his work to the satisfaction of an

admittedly honest architect, a jury should be very slow to interfere. The original specification provided for cement, but this was altered to mortar. The former was better adapted for painting and it dried quicker. There was a clerk of works employed by the plaintiff to see that the work was properly done, and Mr. Webb's representative was there for the same purpose.

Mr. Charles James Trask, a member of the defendant firm, stated that he visited the work about once in three weeks. His managers visited it between his visits. He had never seen rubbish packed inside the wall. Cross-examined, he said that the walls were finished in December 1900. He could not explain why, in the case of the north wall, on which the paintings had been finished after the wall had been re-faced, the paintings were not spoiled, whereas in the case of the south wall, on which they had been finished before the wall was re-faced, they were spoiled.

Mr. Ernest G. Williams, the London representative of Messrs. Trask and Sons, said that he thought the wall had never really dried, and the paint was put on too quickly.

Mr. Micklewright, assistant manager to Messrs. Trask, said that he did not see any space filled with rubbish between the bricks and the flints. Such a wall as had been described would not have stood the weight of the roof.

S. Clarke, the foreman, said the bricks in these 22-inch walls were 14 inches thick; there could never have been in any place as little as 4½ inches of brick, nor could the average have been 9 inches only. Some foreign stuff, shown the witness, he said looked as if it came from a dust-cart, but he never got his material for the work in that way. Whenever he took down a building it always had the appearance of having been made of rubbish. The clerk of the works made no complaints to him about the mortar or building.

Cross-examined—He represented Messrs. Trask. He had nothing to conceal. Some bricks inside may have been rather soft, but they were all right if not exposed to frost. He had written he would not have liked to risk many of them outside. He wrote to Messrs. Trask "he never let the plaintiff see any more than he possibly could." He could not say why he wrote that. It was too long ago. It was not that he had anything to conceal. He had written he was "well watched, but he was up to those sort of people," referring to the clerk of works. He had added the clerk could not catch him asleep, but was on to the men if the witness chanced to move. He could not say what he meant. He had to write to his master, and he could not send a blank sheet. If the mortar had been bad and the bond not properly done, the building would have fallen, and he would not have been in Court to tell this tale.

Re-examined—The clerk approved of the bricks used. He was very sharp.

Two bricklayers gave evidence that the brickwork never fell to 4½ inches only, and that the work was properly done.

Mr. E. G. Verity, a surveyor, said that a wall such as described by Mr. Anderson would scarcely, in his opinion, have supported the roof. Cement would have dried quicker than the chalk lime used. The lime in the chalk lime, when damp, was very injurious to paintings.

Cross-examined—He did not think that the flint surfaces in the interior ought to have been dripping with water four years after the building. That might have been caused by water from outside, or perhaps by the moisture in the mortar. The first was most probable. Water might enter holes in the wall, if such existed. He had made his calculation about the weight to be carried by the walls on a wrong basis, as he now found they did not carry the whole weight of the roof.

Re-examined—He did not think any painting should have been done on these walls within four years of their erection.

Mr. Salter submitted there was no case as to negligence by Mr. Webb either as to the building of the apse walls or as to giving the final certificate.

His LORDSHIP said he should leave it to the jury to say whether it was negligent of Mr. Webb to advise Mr. Newman that he might paint on the walls two years after their erection.

Mr. E. Doran Webb, the architect, said he attended about every seventeen days during the progress of the work. There was no difficulty about the building of the apse walls. He thought the painting did not stand because a south wall, where it was done, was always damper than others, and he thought this wall had not dried completely. Chalk lime took longer to dry than cement. At the time of signing the contract, he did not know Mr. Newman was to do painting, and he did not tell him that the walls would be fit for painting two years after erection for the autumn of 1901; he told Mr. Newman it would be two years at least before any wall-painting or decoration could be done. In the summer of 1903 he was surprised to hear painting had been begun. If there was only  $4\frac{1}{2}$  inches of brick, the building would have collapsed.

Cross-examined—Bad work, such as mentioned in Mr. Anderson's report, ought to have been noticed, if it had existed. He did not notice it, though he inspected the work regularly.

Mr. Leonard Stokes said that evaporation of moisture would be retarded if the outer surface were flint rather than brick.

Cross-examined—There was a common idea that a wall was dry after two years. If a wall were full of rubble, as Mr. Anderson reported, that would tend to spoil the paintings. He thought the photograph of the wall contradicted the report. He had not seen the work itself.

Further evidence was given that two years was a usual period to leave a wall before painting on it.

His LORDSHIP, in summing up, said that Mr. Webb and Mr. Newman had, previous to this matter, done work for Mr. Keyser at Aldermaston in decorating the church there, so that Mr. Webb knew the kind of work proposed to be done at Hinsley by Mr. Newman, and Mr. Newman was aware of the requirements for the work. At Christmas 1900 the apse walls were done. The painting began in July 1904, before which Mr. Newman applied a drying preparation. No one had blamed Mr. Newman. Damp came out and spoiled part of the painting after a good deal had been done, and it had to be renewed. The plaintiff had to show why this had occurred. Was it proved that it was because of failure to follow the specification? This method of building with brick and flint was not unusual. The interstices between should have been filled in with flint chippings. The space should not have exceeded 2 inches or 3 inches. Was the space filled with improper material? Mr. Anderson was employed by Mr. Keyser to make a report on the work, as there had been some dispute between Mr. Webb and Mr. Keyser. Mr. Webb made his last visit in January 1902, and gave his last certificate in May 1902. The jury must form their own opinion on Mr. Anderson's evidence. Mr. Anderson gave his report on May 7, 1906, to Mr. Keyser. Mr. Keyser told Messrs. Trask on the 8th that he was having an examination of the building made by Mr. Anderson and invited them to come to Hinsley and see the condition of things. Messrs. Trask repudiated liability, and did not accept Mr. Keyser's suggestion on the 15th to come and see Mr. Anderson on the spot and to ask Mr. Webb to come also, but said they could send a representative on the 29th, and did not propose to communicate with Mr. Webb, as they had had some dispute with him about some other work. The repairs were accordingly done without their presence. It was now said that the paintings were not hurt by the work being badly done, but by the paintings being applied too early. Which account did the jury prefer? Should not Messrs. Trask have sent someone to see if Mr. Anderson's report were well founded? Should Mr. Webb have seen that the building was badly done? Was the specification fol-

lowed or not? If the work was badly done, should Mr. Webb have found it out? As to damages, it had cost about £117 to make the walls good. To put the paintings right would cost £200. Was this expenditure reasonable?

The jury found a verdict for the plaintiff against both defendants, £100 against Mr. Webb, and £217 against Messrs. Trask & Sons. The £100 payable by Mr. Webb to be divided into £32 for repair to the wall, and £68 for the necessary repainting; the £217 payable by Messrs. Trask & Sons to be divided into £45 for repair to the walls, and £152 for the repainting.

Mr. GARLAND submitted that the damages against Messrs. Trask for repainting were too remote.

His LORDSHIP overruled the objection, and entered judgment accordingly.

## MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1907-08, held Monday, 16th December 1907, at 8 p.m. —Present: Mr. Edwin T. Hall, *Vice-President*, in the Chair; 40 Fellows (including 7 members of the Council), 48 Associates (including 1 member of the Council), and numerous visitors.

Upon the Minutes of the previous Meeting (2nd December, *JOURNAL*, p. 105) being put for confirmation, Mr. H. Hardwicke Langston [A.] objected that the Minute respecting the amendment which he had asked leave to bring forward (p. 106), and which the Chairman had ruled could not be entertained as the notice required under the By-laws had not been given, was by inference inaccurate, inasmuch as the business to be brought before that Meeting, and to which his proposed amendment related, had not been announced in sufficient time for the required notice to be given, and that consequently such Minute ought to be amended or expunged. The Chairman stated that the Minute in question accurately recorded what had transpired, but that Mr. Langston's protest should be entered on the Minutes of the present Meeting. Thereupon the Minutes, having been taken as read, were passed and signed as correct.

The Hon. Secretary announced the decease of Edward Morgan Whitaker, *Associate*, elected 1882.

The following members attending for the first time since their election were formally admitted by the Chairman—*viz.*, Ralton Gardner Hammond and Robert Cunningham Murray, *Fellows*.

The Secretary announced that the following candidates had been nominated for election—*viz.*, As *Fellow*: Samuel Hurst Seager [A.] (Christchurch, N.Z.); As *Associate*: Walter Godfrey Green.

The Chairman referred to the approaching retirement of Mr. W. J. Locke from the Secretaryship, and having given expression to the feelings of personal regard in which he was held by members, and their appreciation of his valued services as Secretary, wished him on behalf of the General Body success in his future career.

The Meeting having warmly endorsed the Chairman's remarks, the Secretary expressed his acknowledgments for the unvarying kindness and consideration he had experienced from members, and his deep concern at severing his connection with the Institute.

Mr. Wm. Woodward [E.] read a Paper on RECENT FIRE LEGISLATION FOR LONDON UNDER THE FACTORY AND WORKSHOP ACTS OF 1895 AND 1901, THE LONDON BUILDING ACT 1894, AND THE AMENDMENT ACT 1905.

The Paper having been discussed a vote of thanks was passed to Mr. Woodward by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.



FIG. 1. CHURCH OF ST. MARTIN-ON-THE-HILL, SCARBOROUGH

Photo. J. J. & Co.

## GEORGE FREDERICK BODLEY, R.A., F.S.A., D.C.L.

Born at Hull, 14th March 1827. Died at Water Eaton, 21st October 1907.

“**T**O do one great work and to die looking through a lattice window.” Such was the ambition he expressed, when a young man, to a friend who reminded him of it only shortly before his death. Not one, but two great works came to him at the end, the Cathedrals of Washington and San Francisco—in Liverpool Cathedral his share was a subordinate one; and he died in the stone-mullioned Manor House of Water Eaton, near Oxford, in which he had lived for little more than a year.

His father was a physician, first at Hull and afterwards at Brighton. It was at Brighton that he first met George Gilbert Scott on the occasion of the marriage of Scott's brother to his sister. How he came to take up architecture can be best described in his own words: “Just previously I had been reading a book on architecture, Bloxam's *Gothic Architecture*, and had become bitten with a curiosity about the history and the art. My father arranged, at my wish, that I should be with Gilbert Scott, and soon after the marriage mentioned I went and lived with Mr. and Mrs. Scott in Avenue Road, Regent's Park. I had not drawn at all before. The only sketch I remember making was one of the sea at Brighton when the moon made a broad path of light that led to mystery and darkness. I remember showing it to Scott, who said it was not architecture—which it certainly was not.” He remained in Scott's office for five years, and on leaving at once commenced practice. His first work was adding an aisle to a church at Bussage in Gloucestershire for Thomas Keble, the brother of John, and in a statement he made in 1901 he said, “What works I carried out for some time I could

trace to this added aisle at Bassage." Other churches soon followed: St. Michael and All Angels, Brighton; Stanley End, Gloucestershire; France Lynch; St. Martin-on-the-Hill, Scarborough, consecrated 1863; All Saints, Scarborough; All Saints, Cambridge, a church with a central arcade; St. Michael, Folkestone, enlarged later; and St. John, Tue Brook, Liverpool, all built before 1870, the last three showing no trace of the French feeling so conspicuous in his earliest work. In 1869 or 1870 he took into partnership Thomas Garner, who had also been a pupil of Scott, although after Bodley's time. For nearly thirty years the firm was known as Bodley & Garner. For the first half of that time they worked together in such perfect harmony that it is quite impossible to say to whom the credit for any design, or even my portion of a design, is due. During the last ten or fifteen years of the partnership, which was dissolved in 1898, they divided the work: one carrying out entirely one building, the other another. In the days of their active collaboration they always worked at their homes, never at their office in South Square, Gray's Inn; in fact there was no place there where they could work. This accounts partly for the difficulty of stating with certainty which was mainly responsible for any one building. Afterwards they moved to Gray's Inn Square, where there was more room, and then they visited their office more frequently. For about ten years they lived four doors from each other in Church Row, Hampstead, and all full-size details were made there by one or the other. Small-scale drawings were made in the office, but that was about all. They sometimes even set out their traceried windows full size themselves. So much did they alter designs after they were first made that I remember, in the case of the Master's Lodge, University College, Oxford, built about 1878, I hardly recognised the building when I saw it, although I had worked on the  $\frac{1}{4}$ -inch-scale drawings.\*

In consequence of the reasons given above it is impossible to separate Bodley's share from Garner's during several years, and neither probably would have wished that any attempt to do so should be made. But when dealing with the early work done before the partnership began, and with the later work of the last fifteen years or so, there is no such difficulty, and Bodley's rare taste is manifest at both periods. His early churches—St. Michael's, Brighton, St. Martin's, Scarborough, &c.—were designed when he was strongly under the influence of early French Gothic, but he treated his plate-tracery windows and other borrowed features he introduced with marvellous refinement and with an originality which carried them far outside the range of mere copying. In after years he was out of sympathy with, and spoke disparagingly of this earlier work, but it is a question whether the two churches mentioned do not rank among his best. In a letter he wrote me in 1896 he says: "St. Michael's, Brighton, was a boyish antagonistic effort. Not believing in what one saw at Scott's one went in for a violent reaction. One had seen bad mouldings, and so would not have any, and inane crockets—one felt 'away with them'—which was but the weakness of youth." I cannot help feeling—and I am sure others will agree with me who knew St. Michael's before it was enlarged by another architect—that "weakness" is not the right word. The church was built nearly fifty years ago; and if ever an early work showed genius that work is St. Michael's.†

St. John's, Tue Brook, finished in 1870, was nearly, if not quite, the last church designed by Mr. Bodley before the partnership began. St. Augustine's, Pendlebury, near Manchester, followed soon after. It was consecrated in 1874. In plan it is based on the great brick churches at Albi and Toulon, and consists of a wide nave with internal buttresses which are pierced so as to provide an ambulatory aisle on either side. It was, I believe, the first

\* This work was not done by contract; there was no builder; the clerk of the works ordered the material and paid the workmen.

† The photograph, kindly lent by Canon Sanderson,

the Vicar, shows the church before it was enlarged. The reredos is generally hidden by a fine fifteenth-century German triptych, which still stands behind the altar.

church built in England in which this type of plan was adopted, and it is remarkable also for another reason. The window tracery throughout is a mixture of Flowing and Perpendicular



FIG. 2—CHURCH OF ST. MICHAEL AND ALL ANGELS, BRIGHTON.

lines, and is similar to that which is to be found in a few churches built about the time that the Black Death of 1349 wrought such havoc amongst the craftsmen of the time. There is

a more marked break than in English architecture than at any other period. Bodley's aim was to continue the development which was just commencing when it was nipped by the Great Plague. In the Church of Hoar Cross, Staffordshire, built about the same time for the Hon. Mrs. Meynell Ingram—the most elaborate and most stately of small churches in England—the same desire is manifest.\* Whether these two churches set the fashion, or whether the movement was in the air, is difficult to say without knowing the exact dates of approximately contemporary churches; but it appears certain that before Pendlebury was built this feeling had not appeared in English churchwork since the Gothic revival com-



FIG. 3.—CHURCH OF ST. MARTIN-OF-THE-HILL, SCARBOROUGH.

Photo. Barring & Co.

menced. It is noticeable in the work of Bentley, Sedding, G. G. Scott, jun., &c., especially in the charming St. Agnes, Kennington, of the last named, built about 1877.

In St. Michael's, Camden Town, built in 1879, and in many subsequent churches, Mr. Bodley turned to a somewhat earlier phase of English Gothic for inspiration, and displayed a less exuberant fancy. Not so original as the early churches, these later ones show his absolute mastery of detail, his rare refinement and unerring taste, coupled with fine proportion and great dignity. He played no pranks with Gothic architecture. His love for it was too deep. Replying to a letter congratulating him on receiving the Gold Medal of the Institute,

\* One of his last works was to add a narthex to Hoar Cross Church, in which is to be placed a monument to its two architects.

he writes: "It was as unexpected as unsought. I suppose it is one of the accretions of advanced life. But I feel it to be an honour done to my beloved old Gothic rather than to what little I may have done." His principal later churches for which he was solely responsible are:—Clumber; Cowley St. John's, Oxford; Hackney Wick; Ecclestone; Chapel Allerton and Holbeck, near Leeds; Warrington; St. Aidan's, Bristol; St. Faith's, Brentford; Horninglow, near Burton-on-Trent; Holy Trinity, Prince Consort Road, Kensington, &c. His own favourites were Clumber Church, for the Duke of Newcastle; and Ecclestone Church, for the



FIG. 4.—CHURCH OF ST. MARTIN-ON-THE-HILL, SCARBOROUGH: BODLEY.

Photo. Savoy & Co.

Duke of Westminster. He had the great gift of being equally at home with both town and country churches. All Saints', Danehill, Sussex, is an ideal country church; the Eton Mission Church, Hackney Wick, is as unmistakably a town one. He could spend thousands well, as Hoar Cross Church shows, and yet obtain distinction with hundreds, as at Hackney, and Cowley, Oxford.

His greatest disappointment was losing Truro Cathedral in 1878. Here was a chance of his "one great work." The competition was a limited one, and he made certain of winning it. Pearson contented himself with sending drawings of executed work. Bodley, on the other hand, besides forwarding photographs and perspectives of Pendlebury, Hoar Cross, &c., prepared a complete design. He did more; he sent alternative designs on fly-leaves, which in the opinion of the "office" would have been better omitted, as likely to confuse the

Committee. The design he preferred himself showed a pair of towers over the transepts, as at Exeter. He proposed to retain two bays of the old fifteenth-century church as a Lady chapel at the east end.\* Two years previously he had competed for and lost the "Schools" at Oxford, won by Mr. T. G. Jackson, but in his next Oxford venture he was more fortunate. In his design for the new Quadrangle for Magdalen College he challenged the fifteenth century on its own ground, played it in its own game—and beat it. His design for the new tower leading from the old Quad to the new is in many respects finer than anything Oxford can



FIG. 5.—CHURCH OF ST. AUGUSTINE, PENZANCE.

Photo. Cyril Elia.

boast of the fifteenth century. In the first competition for Liverpool Cathedral he took little interest. He felt that it would never be built on the site then selected. Besides work, mainly domestic, was beginning to pour in upon him and he had little time for competitions.

He is so often referred to as a "church" architect that many have little idea of the

\* St. Mary's, Truro, was a double-nave church with a central arcade and without aisles. Pearson eventually

kept the whole of the southern half, which gives scale to the bigger, simpler work behind it.

number of houses he built, added to, or altered, and of how long ago it is since he began this work. Some of his houses were among the first red brick ones built in England in eighteenth-century fashion, after the advent of King Stueco. The vicarage of St. Martin's, Scarborough, is a most delightful simple house, and absolutely modern, although built early in the sixties. Another early house of his is the vicarage at Pendlebury. Contemporary are



FIG. 6.—CHURCH OF THE HOLY ANSELM, SWAN CHURCH.

*Photo. R. Bridgeman, Lockfield.*

five houses forming a group at Malvern: two houses are detached, whilst three are grouped together in one in a very charming fashion. These were finished in 1869. In 1896 I had a reason for asking him for the dates of these and of other early ones. He replied from his house at Iver, Bucks. where he generally lived and worked before he went to Water Eaton. His answer is characteristic of the man and is worth quoting: "I am not at all well up in the dates of any of the buildings you name. Pendlebury Parsonage was built before Garner's

time, but I really don't know the year. It was some time before the church was thought of. However, I do not think it is worth while to mention these things. It would suffice to say I was early in the field. 'Our little systems have their day.' But our little systems are not worth much, and certainly do not last long, though art is long and buildings are stubborn facts. . . . I am getting a new life working here in peace and quietness, and no cribs with me. But at my time of life one ought to know all the cribs by heart. . . . I am sixty-eight and a bit now, more's the pity. Just as one gets to know something, however little, one has to go to sleep."<sup>o</sup>

As a young man he built some schools, and in 1872 he won in competition the London School Board Office on the Einblankment, since more than doubled in size. Garner was his partner at the time, but the design was submitted under his name alone. In 1876 the firm built the house at the corner of Tite Street, Chelsea, for the Hon. J. C. Dundas. Its design is based on Kew Palace, the front of which they had measured purposely, and the curious can trace the resemblance between the two buildings, although one is very far from being a copy of the other.

The names of the houses, churches, college halls, &c., that he decorated would fill a page or more of this Journal. In decoration he revelled. His sense of colour was exquisite. Without the slightest exaggeration he may be said to have been the one architect of the last century who knew how to paint a church, and who took good care that it was painted.† In St. Augustine's, Pendlebury, walls, roof, screens, organ-loft, and reredos are all painted, and all windows are filled with stained glass. To assist him in his church and house decorations he, together with his partner and G. G. Scott, jun., started Watts & Co., in Baker Street. In the seventies Morris's and Watts's, very different in their ideals, were almost the only places in London where really fine hangings, wall-papers, &c., could be bought. He was originally called in to advise as to the decoration of St. Paul's Cathedral, and prepared a scheme which was not carried out. His desire was to treat Wren's work with the utmost reverence. He found in the choir proof that the stonework had been either painted or distempered before, and his proposal was to use white paint and gilding only, with pictures in the compartments of the vault framed in by the moulded ribs.

In late years he was somewhat criticised for not placing work in the hands of recognised artists instead of firms. He was accused of not being in sympathy with the movement for the union of the arts. How he must have smiled if these accusations ever reached him, which they probably never did, as he mixed little with the younger generation of artists. The truth is he was the pioneer of the movement before the movement itself can be said to have commenced. A reference to his early work proves this. He obtained for Burne-Jones his first commission—or at all events one of his first. This was to paint a triptych for Wagner's Church of St. Paul, Brighton. The work Bodley was doing was not finished when the picture was ready, and Burne-Jones asked permission to sell it to some one who had come into his studio and admired it, and to paint the replica, slightly altered, which is now in the church. How the original, lost for years, came finally into Mr. Bodley's own possession is too well known a story to need repeating. In the west windows of St. Michael's, Brighton, and in the Stanley End Church can be seen some of the earliest of Morris's glass in the kingdom, the cartoons for the latter being made by Ford Madox Brown, Rossetti, and Morris. St. Martin's, Scarborough, is the epitome of the union of the arts. The central panel on the east wall is by Burne-Jones, the side panels are by Morris. The painting on the organ-case is by Mr. R. Spencer Stanhope. The chancel roof was decorated by Morris, assisted by Mr. Philip Webb, Bodley

<sup>o</sup> Apparently he is a year wrong in his age.

† Butterfield delighted in colour schemes; but he obtained his effects by coloured materials more than by paint.

himself executing the painting over the chancel-arch. Morris drew the cartoons for the paintings in the lower panels of the pulpit, a side panel being painted by Rossetti. All the windows are filled with stained glass, the early ones being made by Morris from cartoons by Burne-Jones, Ford Madox Brown, D. G. Rossetti, and Mr. Philip Webb. The decorations of All Saints,



FIG. 7.—CHURCH OF ST. MARY, CLUNBURY.

*Photo. Cyril Ellis.*

Cambridge, and St. John's, Tue Brook, are by C. E. Kempe, the latter church having the wonderful Tree of Jesse covering the whole of the west wall above the low archway into the tower. What a list of collaborators—Rossetti, Burne-Jones, Ford Madox Brown, William Morris, Mr. Spencer Stanhope, C. E. Kempe, and Mr. Philip Webb! It cannot be denied that he was out of sympathy with the work of a younger generation; but no one can say with

truth that he was not keenly alive to the importance of collaborating with artists of the very first rank when he admired their work. He belonged to the pre-Raphaelite movement—though not to the Brotherhood—and he remained faithful to his ideals all through his life. To die “looking through a lattice-window” strikes the keynote of his mind, at least so far as churches are concerned. In house-work he realised the impossibility of adapting mediæval notions to modern requirements, and he never attempted it. I cannot recall a single example of a new domestic building by him in which the detail is Gothic, excluding of course what he did for the Colleges of Oxford and Cambridge. One of his latest works, the new buildings for King’s College, Cambridge, the College has done him the honour to name after him, and in



FIG. 5.—CHURCH AND MONASTERY OF ST. JOHN THE EVANGELIST, COWLEY, OXFORD.

Photo. Threl.

doing so has honoured itself, and at the same time set a precedent which might well be followed elsewhere.

One reason why his work is so good, so complete in every part, is that he never allowed anything to prevent his carrying out his designs as he wished. If clients made suggestions he did not like and became importunate, he did nothing and permitted their letters to remain unanswered. He brooked no interference from anyone. In 1879 he added a narthex and another bay to his Church of St. Martin, Scarborough. Lord Grimthorpe, then Sir E. Beckett, was Chancellor of the Diocese. The plans, &c., were sent to him, and he returned the specification covered with marginal notes, accompanied by a request that these should be incorporated in the document. Mr. Bodley brought it to the office and said, “Simpson, will you please rub out these rude pencil notes, and then I will send the specification back.” The notes were rubbed out, the specification returned, and I never heard anything more about the

matter; but as the alterations to the church were proceeded with at once Lord Grimthorpe probably saw the advisability of giving way.

When he first started practice he worked without assistance, practically without an office. One pupil came to him about 1856, and he did not take another for twenty years. When his



FIG. 2.—CHURCH OF ST. JOHN THE EVANGELIST, COWLEY, OXFORD.

Photo. Wm. Allen, Hackney.

mother came to live at 109 Harley Street, his brother William Bodley, the priest, took his affairs in hand, and used to make out his accounts for him. A story told of him is that he once got his pass-book from the bank, and found it so convenient a size for making notes in that nothing would induce him to return it. When it was finally recovered it was found to



FIG. 10.—CHURCH OF ALL SAINTS, DARENTH, ESSEX.

Painted by C. G. Ellis

be full of sketches, measurements, and memoranda connected with his work. As a young man, before his illness made it difficult for him to get about, he travelled a good deal, but he did not sketch much. He did what was far better, he studied. "Go to Venice and sit in dark corners of St. Mark's, for the good of your soul," was his advice the first time I went to Italy. When he saw a building he liked it is said that he lit a cigar and looked at the building until the cigar was finished, and never forgot it. His memory was a remarkably retentive one. He could describe churches he had not seen for twenty or thirty years as though he had visited them the day before. He could draw detail with a rapidity and a thoroughness which even Street, who also excelled in this respect, might have envied. He was only slightly acquainted with work of the present day, and very seldom expressed any opinion upon it. He had outlived most of his contemporaries; had outlived, to a great extent, the movement he had done so much to advance. To estimate his powers, his early work must be taken together with his later. If towards the end he kept to a somewhat well-trodden path, it was at least a path of which he knew every inch, and along which he had himself planted many flowers.

I have made this article personal rather than historical or critical, and I offer no apology for doing so. A complete list of his works is impossible to obtain; an incomplete one would be useless. No description of his buildings would convey their charm to those who do not know them; and nothing I could say would help those who do. It is stated that he had few friends; this is possibly so, but few men had so many staunch ones. Those who were brought in close contact with him felt an affection and admiration for him which few men inspire. His fine presence, stately manner, and old-fashioned courtesy, his charm—whether in writing or in speaking, his playful humour—all the more striking because his eyes alone showed that

he was conscious of what he was saying—and, above all, his kindness, account for the feeling with which those who knew him well regarded him. Even his slight hesitation in speech—sometimes approaching to a stammer—added a charm. He loved to surround himself with



FIG. 11.—BECCLES CHURCH.

Photo. Cyril Ellis.

beautiful furniture, pictures, glass, silver, old blue and white. If we pupils did not see as much of him in the office as we might have wished, we had the run of his drawing-room, and that alone was a liberal education. He was a musician of no mean order, not as regards technical skill—greater possibly can be heard nightly in half the drawing-rooms in London—but he played with rare expression and feeling. He was a poet, and had a poet's instinct, although

perhaps unable to express it fully in words. His volume of Poems, however, published in 1899, gives some indication of what was in him. One finds expressed there what one finds in his architectural work: his delight in colour and music, his love for English Gothic, his appreciation of beauty and dislike for ugliness, his reticence and his taste. He loved nature and was never tired of singing its praises. In his house at Iver, and later at Water Eaton,



FIG. 12.—CHURCH OF ST. EDWARD, HOLBECK.

Photo. Cyril Allen, Alexandra Park.

he revelled in the flowers, the old-fashioned ones especially, and rejoiced in the quietness of the country, away from the noise and bustle that he detested more than anything else in this world. He was the last of the band of "Goths" who made English church architecture famous throughout Europe in the latter part of the last century, and he was one of its leaders.

To Mr. Cecil G. Hare, his partner during his last year, his friend and companion for many previous years, I am indebted for much information and for kindly looking through this memoir before it was printed.

F. M. SIMPSON.

December, 1907.



## SAFETY EXITS FOR THEATRES AND OTHER PLACES OF ENTERTAINMENT.

By S. HURST SEAGER [F.].

Read before the Royal Institute of British Architects, Monday, 6th January 1908.

THE subject of safe egress from public buildings which Mr. Woodward brought before the Institute at our last meeting is one of such paramount importance that I very readily accept the opportunity offered me to place before our members, for their consideration and criticism, a method I have designed for preventing crushing at exits, to which I made slight reference at the meeting. I have the more confidence in doing this in that the method has already been carried out at some of the exits in two New Zealand theatres, with the result that the audience were able to leave that portion of the auditorium to which it was applied much more freely and quickly than under the previous ordinary arrangements universally seen. Fortunately there has been no panic since the alteration, but the ease with which the audience passed from the auditorium to the street without the slightest tendency to, or even possibility of, crushing confirms me in the belief (which the study of principles and their application in models had created) that I am justified in calling my method "The Safety Exit."

I have only lately had the opportunity of consulting Mr. Edwin O. Sachs's monumental work on Operas and Theatres, and many other essays on the subject to be found in the Institute Library. Though all writers are agreed that very much is needed to be done in order to make our places of entertainment safe, yet in none can I find any clear exposition of the principles to be followed, still less the method of their application to prevent crushing. Mr. Sachs's aim is to show what has been done by architects in modern times in designing opera-houses and theatres. This he has accomplished in a manner beyond praise, and he gives also an able comparison and summary of the methods which he finds have been adopted for the various parts. This is invaluable as a record of what *has* been done; but Mr. Sachs does not claim that the methods which have been in use are to be taken as examples to follow—at any rate not in respect to exits. On the contrary, he criticises some very severely and gives but qualified praise to the best; but such a hold has precedent upon us, so willing are we to follow example, that building after building is constructed in which are seen all the faults in the forming of exits which have led to such heart-rending fatalities in the past, and which will without question be the cause of fearful loss of life in the future.

To effect any improvement it is *principles*, not *precedents*, which must be carefully studied, understood, and followed. Several writers who describe, not what has been done, but what should be done, evidently consider that the last word has been said about exits in the

"Regulations" of the London County Council, for they rest content with quoting these or others based upon them. To my mind no greater error could be committed than to regard these "Regulations" as in any degree a statement of what is required to be done in order to make places of entertainment safe in times of panic, or even as convenient as possible on ordinary occasions. They merely state a minimum number and a minimum width of openings; they make no attempt whatever to show how they should be constructed. All who have studied this question of safe egress must have at once been led to the conclusion that the mode of construction of exits is of infinitely greater importance than their number and width. The Council's requirements leave it to architects to determine how, with the minimum number and width demanded, they may be made safe. That many places of amusement, lecture-halls, and places of worship, though fulfilling the requirements of the Council, would prove to be veritable death-traps in times of panic is beyond question. A very large proportion of the audience would never be able to reach the exits at all, and a great many more would either be crushed in them or in the corridors or stairs, and this because the elementary principles which should govern their construction have been ignored. The principles are so extremely simple, can be so readily understood, that they only need to be clearly stated to place at once in the possession of all a standard of criticism by which every work can be rightly judged. It requires the highest skill and considerable practice in planning to arrive at a perfectly satisfactory result under all conditions; but all who will take the slight trouble to understand the principles can at once determine whether or not the design of any building is such as will ensure, as far as possible, the safety of the public. No more important or fascinating problem is presented to the architect; yet, judging by results here and elsewhere, how very few have reached anywhere near the solution of it.

It cannot be too firmly insisted that the problem is not to design exits in such a way that the audience may leave the building without discomfort under ordinary circumstances, but to design those that shall be free from danger in times of panic, whether arising from alarm of fire or any other cause. That every part should be fireproof has been insisted upon with such force, and such stringent laws made for carrying it into effect, that there is a danger of being lured into a false security by regarding precautions against fire as the only needful ones to be taken. It cannot be too often insisted that safety to the public does not lie in the precautions against fire—important as they are from every point of view—but only in the power of the public to run away from that or any other apprehended danger.

It is often stated as a matter of congratulation, and as evidence of safety, that an audience has been timed to leave a building in so many minutes. This is quite delusive. The time occupied in leaving under ordinary circumstances is no criterion whatever as to the time that will be occupied in leaving when everyone is struggling to get out first. In the struggle to get out first at the Chicago fire 70 per cent. of the people in the gallery were killed, and yet we are assured by the architects that the exits were exactly double the width required by the American authorities—an appalling object-lesson which must be deeply laid to heart if we are to prevent such calamities in the future. Everybody knows perfectly well that pushing and the resultant crushing prevent any progress being made, yet unless the "queue" is firmly insisted upon it goes on to-day as in the past; how much less likely is it, therefore, that people will ever refrain from crushing when the fear that impels them is the danger of loss of life rather than the purely imaginary one of the loss of a seat. It must therefore be borne clearly in mind that the problem is not to be solved by demanding on the part of the audience a certain course of action under any unusual circumstances, for at that time the majority are incapable of thought, incapable of determining what action to take. Hence the false security created by placards on doors and notices of all kinds.

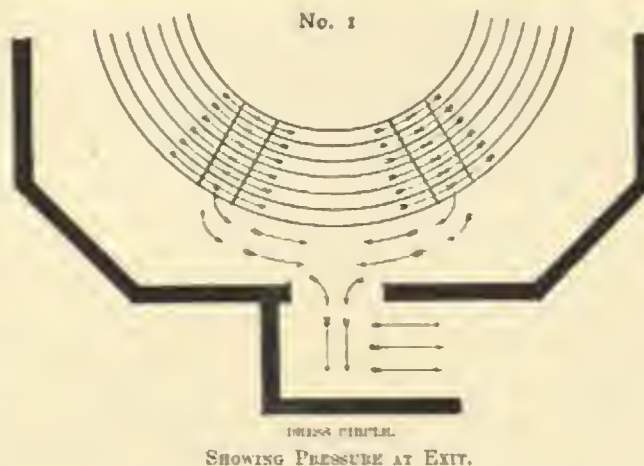
The problem, therefore, is to arrange exits so that, without any choice in the matter, perfectly irresponsible people in any portion of the building shall be impelled to move towards the one designed for their use, through which they must be able to pass to the street without any danger of resistance either from the structural arrangements or from opposing active forces. This, then, is the fundamental principle to be kept steadily in view as the ideal to be reached as nearly as possible. How this principle has been totally neglected in the past can be seen by reference to Diagrams Nos. 1 and 2, which represent very usual exit doorways from the auditorium, found unfortunately in nearly all public buildings, both "magnificent" and simple. The

directions of progress to reach the exits are shown in each case by arrows, and it will be at once seen that here, as in the great majority of cases, highly dangerous resistance is met with at every turn. In the stalls at the ends of the seats resistance is offered either by the

wall at right angles to them or by the mass of people moving, or trying to move, along the gangway towards the exit. When those who have succeeded in getting into the alley-way have reached the exit—and this, be it noted, is but a small proportion of the audience in this part—they are met by a directly opposing active force in those who are trying to reach the exit from the opposite direction. These forces, if exerted, being equal and opposite, perfect equilibrium is produced, or, in other words, no further movement could take place. The active force in the row A, although in the direction of the doorway, is not sufficient to overcome the greater pressure in the

gangway, but it would by the resolution of forces act in a diagonal direction on to the jambs, thus forming for the moment a living arch—a trap from which a few people perhaps might struggle, but the same forces remain at work, and the trap is formed and re-formed as struggling or crushing break it. This is no mere theory—it is only what one would expect from a knowledge of the laws of mechanics, and can be readily demonstrated by models.

In the plan of the "Circle" (Diagram 1) we have opposing forces in the stepped gangways, resistance from right-angled forces at the top of them, equal and opposite forces at the exit as in the stalls, and finally structural resistance in the wall opposite the exit. It will



therefore be seen that this method of forming exits is the one we should only think of adopting if the object were to create as much danger and consequent risk of loss of life as possible. Here then—as the records of disaster have proved only too often—lies the most serious source of danger in buildings for the assembly of the public, and the one to which attention must first be directed. I do not intend to go further at present than to show in what way existing buildings may be made as safe as possible; this is of far greater value for the moment than the putting forth what one may regard as an ideal scheme which, even if approved, might never be carried out.

Before doing this let me refer to one aspect of the question which has a very important bearing, but which is evidently misunderstood by at least one writer on theatre planning, who states that long straight passages are objectionable, because “a long straight passage, and more a long straight stair, is open to the danger of accumulated pressure.” Now, it can be very simply demonstrated that in a straight passage—properly designed—whatever its length, there cannot possibly be any pressure at all, provided the sides are perfectly smooth, as they should be, and that it is of equal width throughout. Accumulated pressure is not dependent upon the length of a passage, but only on its width. This is a most important consideration, which must of necessity have great influence upon the designs of exits. In stating the fundamental principle I have said that exits must be free from the danger of resistance, for we must remember that motion in one direction, or pushing, cannot be converted into pressure unless there is something to push against, as projections at the sides of passages, projecting jambs of doorways, walls at a sharp change of direction, or, as we have seen, by opposing active forces. All these are objects of resistance against which pressure can be exerted. Without resistance there can be no pressure—without pressure there can be no danger. There is very great danger even in the pressure exerted by one person, but the danger is increased enormously when there is accumulated pressure—that is, when there is the pressure of many persons concentrated on one. Let us see, therefore, in what circumstances this can arise and consequently how prevented. I have said it is not dependent upon the length of a straight passage—in other words, it is not dependent in the slightest degree upon the number of people pushing one behind the other in a straight row. Under these conditions pressure cannot possibly be accumulated. Let me endeavour to make this clear. Imagine two men, A and B, of equal strength, hands on shoulders, steadily pushing with all their force one against the other; being of equal strength, and exerting it in the same vertical plane in opposite directions, there is of course no motion, the forces are exactly balanced. Now, behind one of them, say behind B, let a third man, C, also of equal strength, push B on the shoulders with all his force; A is still able to resist the force of both B and C, because the strength of B is now taken up by resisting the active force of C and transmitting that force to A. B is, in fact, now merely a buffer or strut between A and C. Add a fourth man, D, behind C, and both B and C will act as buffers between A and D, and so on, whatever the number of men pushing behind B. Throughout A would only have to resist the active pressure of one man. It would, of course, make no difference to the result if any number of men pushed behind A as well. A would then also be a buffer, transmitting the pressure of the last man in his row to meet the opposite equal force. The truth of this can, of course, be easily practically demonstrated.

We are now in a position to formulate the principle, that pressure cannot be accumulated through the exertions of any number of people if acting in a single row in one vertical plane. How, then, may pressure be accumulated? I have stated that it is dependent on the width of a passage, not its length, or, in other words, it depends upon the number of people that can stand shoulder to shoulder across the width of a passage—the greater the width the

greater the accumulated pressure may be if any resistance is offered. To prove this statement let us imagine what forces will be exerted if ten men push against a wall at right angles to the direction of the pressure, as shown in Diagram No. 3. Let one man, A, push against the wall, two men, B' B'', push him from behind, three men, C' C' C'', push behind B' B'', and four men, D' D' D'' D'', push behind C' C' C''. Now we have the ten men arranged in four rows, A, B, C, and D, in the form of a triangle with the apex A against the wall, and all pushing with their full strength against the resistance the wall offers. It will at once be seen from what has been previously stated that the pressure on A is not that of the nine men behind him, but the accumulated or transmitted pressure of the four men in row D, which is transmitted along the dotted lines shown. Taking the strength of one man as the unit, the figures show the force exerted upon each man of the group—a force under which rows A and B must of necessity succumb, and probably the outer men in row C,

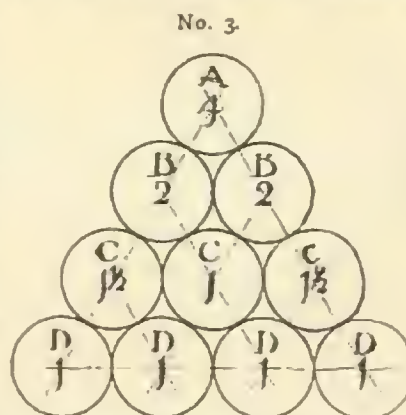
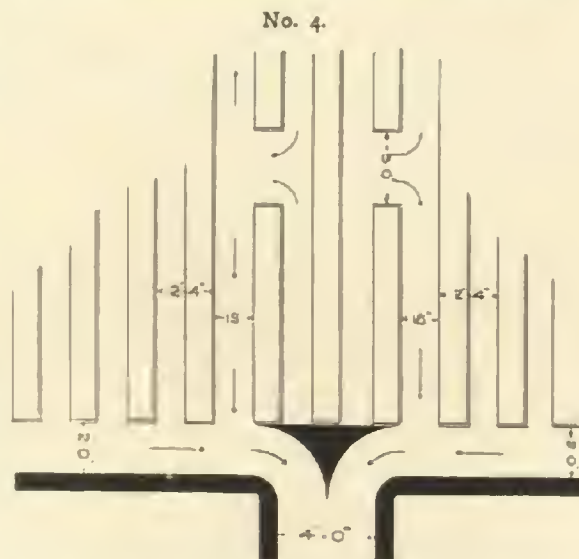


DIAGRAM SHOWING ACCUMULATED PRESSURE  
OF FOUR PERSONS.

in all probability be killed under conditions which admit of the concentration of pressure in this way. It must be noted that this is the maximum pressure that can be exerted in a passage only wide enough to admit of four men standing side by side, for any pressure brought to bear on the men in row D would only convert them into buffers, as has been already shown. This maximum pressure, it will be observed, is created at a distance, from the wall or resistance, less than the width of the passage, and in the same way it can be shown that in a passage five men wide, five times the unit of pressure will be exerted, in one six men wide six times, and so on, and that in all cases the maximum pressure will be created at a proportionate distance from the resisting surface.

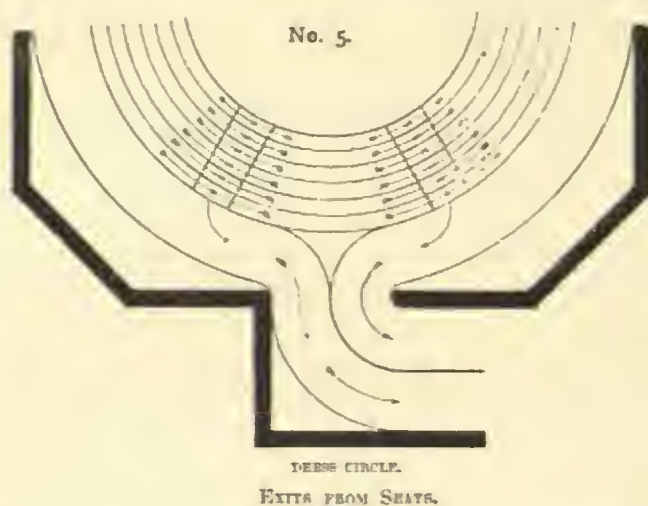
The consideration of these truths leads us to another guiding principle. Wherever the conditions are such that oblique forces can be exerted accumulated pressures will result, varying in intensity directly as the width of the passage or space in which they are acting. Of course the greater the length of the wide passage or space the greater the number of people there may be under pressure if resistance is offered; but, as I have pointed out, the straighter the passage the less likelihood there is of any resistance being offered, and conversely the greater the number and the sharper the angles of change of direction in a passage the greater the risk will be that blocking will occur at one or the other of them.



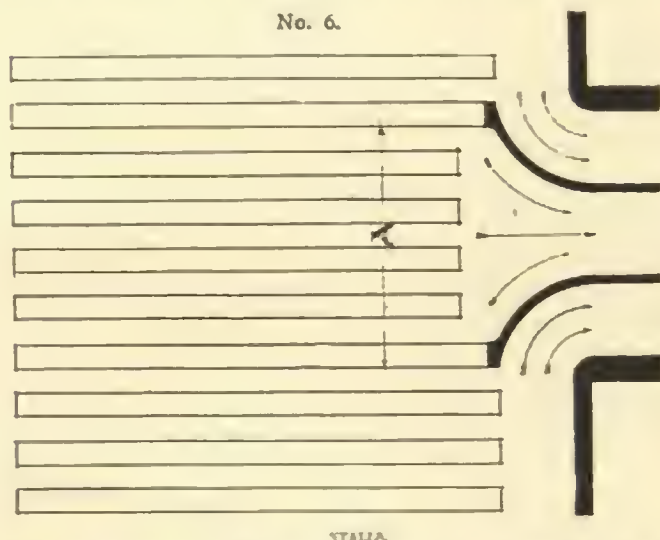
THE SAFETY EXIT APPLIED TO A FOUR-FOOT DOORWAY.

From these considerations it is at once apparent that the maximum safety is reached

in exits one person wide throughout—from their seat to the street—that danger from oblique pressures begins with an exit two persons wide, and is increased directly as the number of persons increases in width of space occupied. Hence the great danger arising from any enlarged space in the line of egress, and the urgent necessity for dividing wide corridors with handrails to prevent any possibility of oblique pressures being exerted.



must be permanently and strongly fixed, and be perfectly smooth. The diagrams show the method of application to such an exit as that shown in Diagram 2. In the first case the outer divisions would be equal in width to the gangways at the end of the seats, and the central one proportionate to the number of people using it. In the second case it will be seen that the people behind the screen have as ready egress as those from other seats, and can reach the



SHOWING APPLICATION OF SAFETY EXIT WHEN THE DOORWAY CAN BE DIVIDED INTO THREE.

Diagrams Nos. 4, 5, and 6 show plans of the Safety Exit already referred to. No. 6 shows the application to a doorway wide enough to be divided into three, No. 4 the application for a 4-foot doorway. It has for its aim the eliminating of all resistance to outward progress by means of curved solid dwarf partitions, which should be shoulder high, or about 4 feet 6 inches. They may be constructed of double plates of sheet iron,

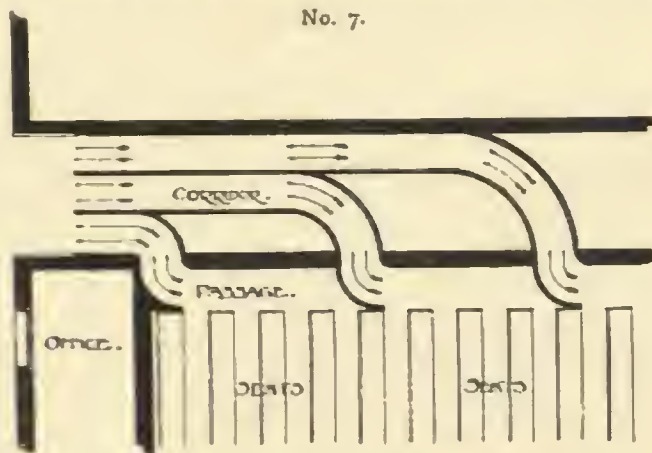
exit without meeting with resistance. By the use of this simple device any pushing would not create any pressure at the exit, but would only tend to hurry the audience more quickly into the street or corridor. The curve must have a radius greater than the width of the gangway; otherwise, if greater force is exerted by those close to the wall, they may at times create sufficient pressure against the portion of the curve opposite to them to create a block. With models I have occasionally succeeded in creating a block under these conditions, but never if the radius is sufficiently greater than the width of gangway to produce an angle of the resolved forces of under 45

degrees with the portion of its surface next the doorway. This is in accord with the well-known law relating to the reflection and conduction of sound, which will be found by experiment to apply to various bodies acting against a surface—modified only by the

varying frictions which the surfaces present. It will be found by experiment that if a person is forced against a wall at any angle between 45 degrees and 90 degrees the resistance offered will be complete; if at any angle between 45 degrees and 30 degrees the resistance will be partial, and part of the pressure converted into motion along the surface of the wall; if under 30 degrees the resistance is so slight that it ceases to provide any element of danger. From this it will be seen that merely rounding off right angles in corridors is not sufficient to produce absolute safety, although it will reduce the danger of blocking very considerably. There being no dangerous resistance, then, in the curve as fixed in the Safety Exit, the people can pass from the two gangways with perfect ease without the slightest interference from opposing forces. In passing from the block of seats A (Diagram No. 6) there may be some pressure exerted, but it cannot create a block, as none of the forces are directly opposed, either to each other or to the structural surface—they all tend to push the people out, and their safety is thus ensured.

Diagram No. 5 shows the application of the Safety Exit to the "Circle" shown in Diagram No. 1. It will be seen by the direction of the arrows that both active and structural resistance has been removed from the doorway, and what was unquestionably a death-trap converted into a perfectly safe exit. In this case—as in all cases where the exit from the auditorium opens into a corridor—the curved surfaces must be continued till the people are moving in one direction, as shown here and in Diagram No. 7.

No. 7.

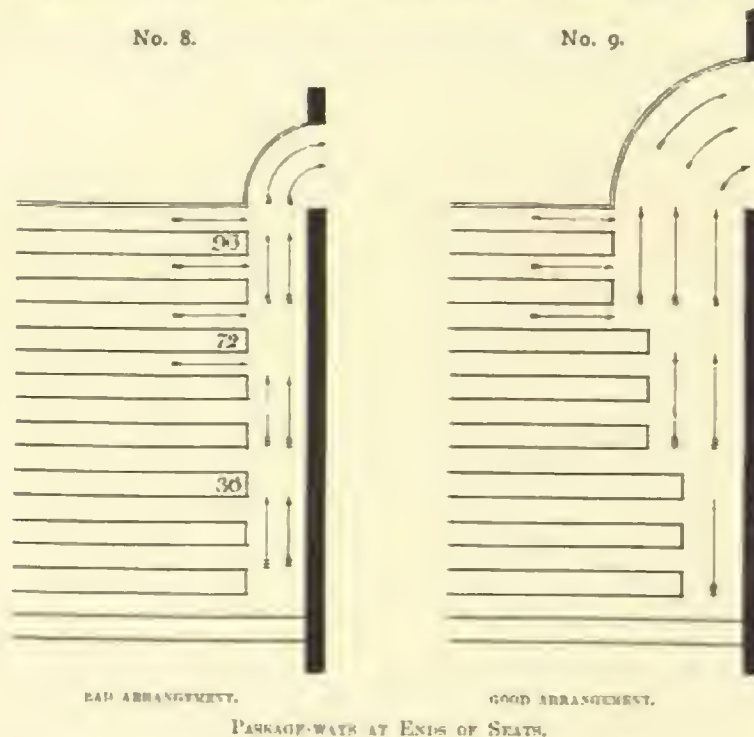


PLAN SHOWING ARRANGEMENT OF EXITS INTO CORRIDOR TO AVOID CRUSHING.

It will be noticed that in Diagrams Nos. 4, 5, and 6, although the safety exit provides for the easy progress out of the gangways, there still exists the pressure exerted by the people in the rows of seats pushing against those who have passed from them. I have shown that whatever the number of people in the row, only the pressure of one person can operate at the end of it; this pressure being at right angles to the direction of the forces in the gangway could not produce equilibrium, but it would be sufficient to considerably retard the flow of the people towards the exit, and should, therefore, be eliminated as far as possible. In the great majority of instances the gangways are of even width throughout, as in Diagram No. 8. How unscientific this is can at once be seen by noting that while only thirty-six people have to pass point A, seventy-two must pass point B, and ninety-six point C. Yet all are of equal width. This has been recognised as a defect, and it has been suggested in America to make the gangway increase gradually in width towards the exit; but this I hold to be out of accord with the principles which should govern gangway and corridor construction, for the following reasons. It will be noted that I have spoken throughout of the widths of corridors as based on the unit width of the people who are to use them. I have done so because my experiments have led me to the firm conviction that unless this is done there is an element of danger in them in times of excitement, which does not yet appear to have been apprehended. The width of adults across the shoulders may be taken as varying from 16 inches to 24 inches. This gives an average width of 20 inches, but as there are certainly a far greater number nearer

maximum than the minimum, we may, I think, safely take 22 inches as the unit of width required for free egress of each person in all exits, if for a greater number than two. If a gangway or division of an exit is intended for the use of one or two people the maximum width of 24 inches should be taken.

The effectiveness of any exit depends solely upon the number of people who can pass through it in a given time—this is a truism, yet it appears to have been wholly disregarded in



the greater number of instances, both in England and elsewhere, or the rule would never have been laid down, and apparently generally accepted, that "corridors shall have a minimum width of 4 feet 6 inches if for the use of not more than four hundred persons, shall be 5 feet if for the use of five hundred persons, and shall increase in width at the rate of 6 inches for each additional one hundred persons." Now, apart altogether from the question of sufficiency or insufficiency of these requirements—which I do not now propose to enter upon—let us consider what underlying principle, if any, there is to be found in them.

Placing the widths arrived at by multiplying the

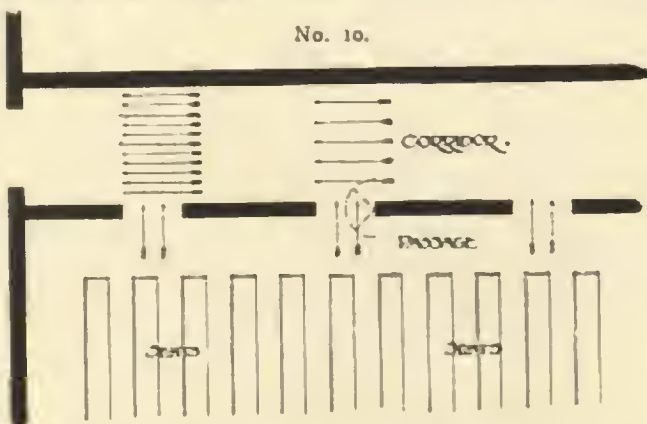
stated unit measurements, and the rules which have hitherto been adopted side by side, we have:—

UNIT MEASUREMENTS			ADOPTED RULES	
Person	Width required ft. in.	Number of People	Width ft. in.	Effective Width
One	2 0	400	4 6	Two persons
Two	4 0	500	5 0	" "
Three	5 6	600	5 6	Three ..
Four	7 3	700	6 0	" "
Five	9 2	800	6 6	" "
		900	7 0	Four ..

It will thus be seen that 4 feet 6 inches is a two-person exit, but is 6 inches wider than the very liberal space allowed under unit measurements. That 5 feet is 6 inches too narrow for the free use of three people, who require, as shown, 5 feet 6 inches, the width adopted for 600 people; from this number there is no increase in efficiency till the width adopted for 900 people, which, it will be seen, is 3 inches narrower than it should be. This cannot be a matter of surprise when we reflect that the increase of width asked for is less than the space required for one-third of an average person. I think we may, therefore, call them unprincipled widths, and must regard them as possessing on this account an element of danger which should not

exist. The element of danger lies not so much in the fact that it would take, say, 700 people one-sixth longer to escape than 600, but rather in the fact that by those irregular widths lateral pressures may be set up tending in two different ways to create a block. In the latest regulations of the L.C.C., it is true, the unsafe minimum width of 4 feet 6 inches is deleted, and the safe two-person 4 feet minimum adopted.

Though these new regulations of 1906 demand infinitely greater security than those which have hitherto been in force, still I venture to think that they may still be improved in several important particulars. It is unfortunately the old ones of 1900 that are continually quoted and are held up in all the text-books as guides to follow, making it extremely difficult for those of us whose practice lies outside the sphere of influence of the Council to persuade the proprietors of buildings for public use, and those having control of them, that something much more is needed to be done than those old regulations demand. The retention of the 5 feet width, although not presenting so serious an element of danger as the 4 feet 6 inches one, must be regarded as an oversight when we reflect how easily possible it is for three people above the average, or three men of average stature to block it by forming a segmental arch across it. Let us consider the conditions under which this might arise. It will be seen that three persons having the average width across the shoulders of 20 inches would just tightly fill the width of the corridor; they could not walk easily side by side. Three men of an average width of 21 inches would, if they tried to squeeze in, form a flat segmental arch having a rise of about 8 inches, and a thrust against the side walls, making with them an angle of over  $60^\circ$ —a thrust which, as we have already seen, would meet with complete resistance. An arch of this kind would certainly be an unstable one, but there is danger in it; for we can easily realise that the three men thus held by the lateral pressure would be striving to break from it with such force that they would, on the arch breaking, be impelled forward so rapidly that in all probability they would be thrown down, and thus cause danger to all who follow. Again, if three men, 22 inches wide, got blocked in the same way they would form an arch having a rise of 12 inches, and exert a thrust on the walls at an angle of over  $45^\circ$ . This, it will be remembered, is also one which offers complete resistance, but the arch now is of more stable form, and the danger in this case is of those forming it creating a complete block and succumbing to the great pressure that can be brought to bear upon them. The probable danger arising from these causes can be reduced to a minimum, if not wholly eliminated, by making the corridor sufficiently wide for three average men to just fill it comfortably—namely, 5 feet 6 inches as stated. With a 5 feet 6 inches corridor it would, of course, require four people to form an arch, but it will be found that four persons of the average width of 20 inches would form an arch with so high a crown that the thrust would fall on the walls at an angle less than  $45^\circ$ , and, therefore, not sufficient to offer complete resistance. In this case, therefore, no dangerous pressure could be brought to bear upon it, still less if four average men of 22 inches width form the arch, for in this case it would so nearly approach a

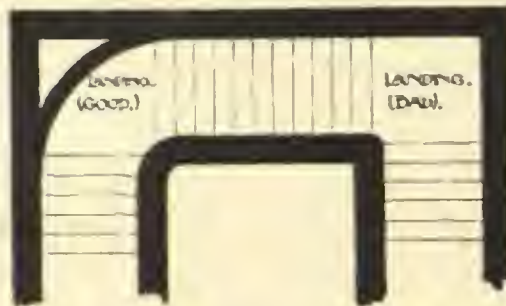


PLAN SHOWING BAD ARRANGEMENT OF EXITS INTO CORRIDOR AND REDUCED WIDTH IN DOORWAY.

the walls at an angle less than  $45^\circ$ , and, therefore, not sufficient to offer complete resistance. In this case, therefore, no dangerous pressure could be brought to bear upon it, still less if four average men of 22 inches width form the arch, for in this case it would so nearly approach a

semicircle that the resistance offered by the walls would be a negligible quantity. I am well aware, as we all must be, of the extremely variable conditions likely to be set up against which it is impossible to provide scientifically, but if we are convinced that there is any possibility—

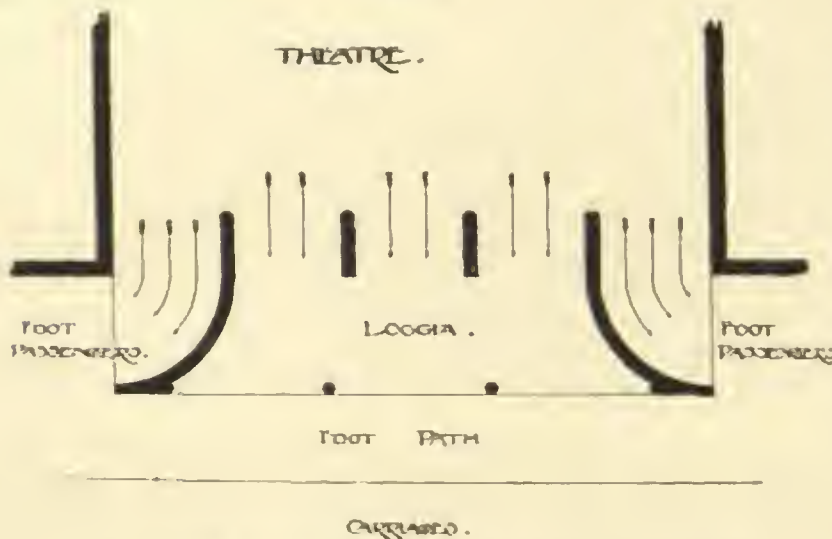
No. 11.



PLAN OF STAIRS AS RECOMMENDED BY LONDON COUNTY COUNCIL, AND SUGGESTED IMPROVEMENT.

even suppose we think it remote—of normal conditions, such as I have shown, producing any element of danger, then I think we should endeavour to avoid it by asking for the extra 6 inches. In all cases where corridors are broader than required for the easy progress of any given number of people side by side it should be demanded that they should be reduced, or divided, to avoid all possibility of people rushing in to fill small vacant spaces, and thus creating those lateral pressures which we have seen to possess such an element of danger. It may seem without reflection as a paradox to consider a 4 feet exit as of greater value than 4 feet 6 inches, but when we note that in the latter case three persons of average width of 20 inches, as also those of the average width of 21 inches and 22 inches, are able to block it in the way I have explained, it will be recognised to be a width that should never be adopted. This principle must apply to all portions of the exit, and therefore to gangways, as shown in Diagram No. 9, in which it is seen that, while no seats are lost, all the people in the three groups of three seats have an equal chance of leaving them without risk, and in comfort. In Diagram No. 10 we have illustrated the enormous danger existing in the exit doors from the auditorium opening into a corridor, and the increased danger by reason of the reduced width

No. 12.



PLAN SHOWING SUGGESTION FOR PREVENTING CRUSHING AT ENTRANCES.

of the outer doorway, while Diagram No. 7 shows how by the application of the principles enunciated it may be made perfectly safe with but an insignificant outlay, but in this as in all cases where there is imminent danger, the cost of reducing it should be the last consideration. Diagram 11 shows the stairs demanded by the London County Council regulations altered in accordance with the principles laid down—keeping the exit of

even width, and making the change of direction against a non-resisting surface. Diagram 12 is a suggestion for preventing that confusion which now exists at exits in the street. The

planning of these would depend wholly on the circumstances of the site, but such a plan might prove of the greatest service under favourable conditions. That the planning of places of entertainment should be symmetrical has already been insisted upon. If this is carried out it would add both to the comfort and safety of the audience by ensuring that those who approach the building from the right would occupy in all the unreserved places the right-hand seats, while those on the left would be those who have approached the building from that direction. Hence on leaving there would tend to be two unimpeded streams of people rushing from the building in the direction of their homes.

I have said that the new London County Council regulations should be amended—in what direction the principles I have brought before you will, I think, show. For it will be seen that they cannot possibly be regarded as guides to follow unless they demand:—

That the exits shall be based on a unit measurement corresponding to the average width of adults.

That all exits shall be of even width throughout.

That if any increase is made in the width on the line of egress, that width shall be maintained to the street.

That the walls of all corridors shall be perfectly smooth to a height of 5 feet.

That every change of direction in the exit shall be made by means of curved non-resisting surfaces.

That the exit from any part of the building must in all cases be also the entrance.

That every precaution shall be taken to keep the exits unimpeded by carriages or people.

If these necessary requirements are fulfilled we may, I think, rest assured that our places of entertainment will cease to be the death-traps many of them unquestionably are, and that we shall have done all that lies within our power to provide safe egress for their patrons.

## DISCUSSION ON MR. SEAGER'S PAPER.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

Prior to the reading of the Paper, the President reminded the Meeting that the Paper was in the nature of a supplement to Mr. Woodward's Paper read at the last meeting, and that the author, an Associate of many years' standing, had just been elected by acclamation to the Fellowship of the Institute.

Mr. WM. WOODWARD, who rose at the invitation of the President, said he had much pleasure in proposing a vote of thanks to Mr. Seager; he did so with the more pleasure because Mr. Seager was from New Zealand, he had been admitted a Fellow of the Institute that evening, and he had shown by the scientific treatment of his subject, and by the excellent way in which it had been read, that a comparatively dry subject might be made, and had been made by Mr. Seager, most interesting. The elucidation of the principles which Mr. Seager desired to set forth had been so perfectly clear to all of them, his diagrams and his descriptions of those diagrams had been also so perfectly clear, that very little indeed remained for one to say upon the Paper itself. He entirely agreed with Mr. Seager that they ought not to attach too much importance or

place too much reliance upon fire-resisting or fire-proof construction in theatres. The danger that existed was in the desire to get from the building, and the importance of getting from the building quickly was so great that the fact of its being fire-proof or fire-resisting had very little influence upon the loss of life which might occur. In cases where fire had occurred in a theatre or similar place of amusement, the danger they had to fear arose from panic and want of consideration. The principal danger consisted in the confluence of persons coming from different parts of the building; and the circular passages and the circular ends to the corridors which Mr. Seager had so clearly shown upon his drawings must convince them, and he thought must convince the London County Council, that it was very desirable that they should amend their requirements with regard to these exit corridors. He quite agreed with Mr. Seager that it was a danger to have a corridor too wide or too narrow; and although the proportions of the human form might not exist in all cases as shown, Mr. Seager had given them a very good average indeed for the ordinary human being.

Another important point was that the so-called crush-rooms were in themselves a very serious danger. As Mr. Seager said, instead of being crush-rooms they might be more properly called crushing-rooms. It was there that the danger existed, that the rush and crush in case of excitement would take place, and that the greater number of lives would be lost. Another important point with regard to Mr. Seager's plans seemed to be the entrance. He quite agreed that in desiring to leave a building one's natural tendency would be to make for the door by which one had entered; and if, instead of the usual square angles found in most theatres, curves such as Mr. Seager suggested were substituted the danger would be very much minimised. With regard to the corridors, Mr. Seager's models showed that the multiplication of corridors need not be unsightly, because they need not be higher than four feet six inches: that would not shut out the view of the interior, and they would not form unsightly additions to the building. He trusted that the London County Council would give some attention to their friend from New Zealand, who was evidently thoroughly versed in the American modes of exit. Perhaps they might be disposed to give more consideration to him than they would to a London architect reading such a Paper. He was sure they all greatly appreciated the Paper that evening, and were much indebted to Mr. Seager for the trouble he had taken in its preparation. If they could have other architects from the Colonies to give them the benefit of their study and experience they should be only too pleased to welcome them at the Institute.

Mr. GEORGE HUBBARD, F.S.A. [F.], said he seconded the vote of thanks very heartily and cordially. He could not help feeling that all who had listened to Mr. Seager's most excellent Paper must be extremely grateful to him for the very lucid way in which he had laid this complex question before them. Mr. Seager had enunciated a scientific truth upon which there could be no discussion; he had clearly and scientifically laid before them the fact that the audience were parts which had to move out of the building with the least amount of friction, and he had shown them the way in which that could be done by his diagrams and models; he did not think any could forget the lesson he had taught them. It was one of the most scientific Papers he ever remembered to have heard in that room. There was only one point upon which he should like Mr. Seager's opinion. He had impressed upon them that in times of danger people were apt to lose their heads, and do exactly the thing they should not do. He thought this might happen in the case of such an arrangement of exits as that shown in Diagram No. 7. A person might feel sorely tempted to jump over the back of his seat and make for the nearer exit which should rightly belong to another

set of seats. By so doing he would increase the amount of crush in one exit, though he might relieve the crush that would be going down another.

Mr. W. H. ATKIN BERRY [F.] said he should like to endorse the appreciation which had been expressed by the proposer and seconder of the motion, of the very valuable Paper Mr. Seager had brought before them. He should like, however, to ask a question on one point—viz. as to how one man could resist the pressure of four, as stated by Mr. Seager. If that were so, he thought that the principles of statics and dynamics must have altered since his school days, because he could recollect the unfortunate boy sitting at the end of a bench being called upon to resist the pressure of all the other occupants of the bench, and finding himself on the floor, to his great discomfort, and perhaps having to suffer punishment for making a disturbance! Perhaps Mr. Seager would enlighten him a little more upon that point. Passing to the diagrams, the same question occurred to him with regard to Diagram No. 4 as Mr. Hubbard had suggested with regard to another plan. They could not rely upon all the people leaving their seats in the same calm and orderly manner as the arrows showed they ought to leave. It seemed to him that, instead of going along the line of the arrows, people in panic would rush over the benches, and so create a block with those coming along another line. In another place, too, on the same diagram, they would meet those opposing forces which Mr. Seager had cautioned them against. Perhaps Mr. Seager would give some explanation of those points also.

Mr. ROBERT F. HODGES [A.] asked to be allowed to express his appreciation of Mr. Seager's interesting Paper, and to put one or two questions to him. Up to some six years ago he had held for nearly fourteen years a position as surveyor of theatres and music-halls under the Metropolitan Board of Works and London County Council. He thought one or two of the arrangements shown on the diagrams needed reconsideration. Mr. Hodges proceeded to criticise these and to draw attention, from the plans, to troubles which might arise in connection with sloping floors and varying floor levels at the points of exit from gangways, and the temptation to people to climb over seats by way of short cut to these exits. He felt sure that the Council would never sanction a 2-foot gangway being substituted for that of 3 feet 6 inches, as required by their regulations. One reason against this would be obvious. It would be utterly impossible to provide even standing room in a gangway of, say, 30 feet by 2 feet, for anything like the number who would seek to use it, and slow progress and absolute blocking would be inevitable. Mr. Seager did not show how he would place or hang his doors. The swing doors as shown on one plan would cause obstruction, and draughts might result from the various openings and passages. The people to be

most considered were those farthest from the street. Exit from the ground level was more or less easy in most of the modern theatres. There were other matters, too, of great importance, such as the hand-rails and the condition of the so-called automatic bolts, which very often were anything but automatic. The bolts often got out of order; the holes that the bolts slid into became filled up with rubbish, and consequently the bolts would not work, and the doors would not open. Automatic bolts should be in such order that they would open with the slightest movement.

Mr. MAX CLARKE [F.] said he should like to add his quota of praise to Mr. Seager for so clearly elucidating his views to them. Mr. Seager, however, seemed to put fire resisting construction in the second place, and good exits in the first place. That, he thought, was not a correct point of view from which to look upon the construction of public buildings. Everybody who had ever designed a theatre or music-hall had had it in his mind that the people would wish to get out in the most rapid manner, and anybody who had ever had anything to do with it had also had in his mind that the thing they arranged for the people to do they would not do when there was a panic. The serious fires which had occurred in many theatres of the world were fresh in the memory of the public, and nothing that one could do would persuade them that such things could not occur again. Given a theatre built of absolutely incombustible materials, the only thing to burn being the stage equipment, it seemed to him that one would be quite safe in moderating the speed of leaving the building. He had several reminiscences in his mind, but they were not very pleasant ones, and he had better not therefore relate them; but he remembered distinctly making a drawing and providing for a window to be put in a certain place so as to allow means of escape in case of fire. The window was put there: a fire occurred, and the men in the building never thought of opening the window, and two of them were burnt. That was his point. This theoretical idea was most excellent, and, so far as one could, it was advisable to carry it out. If Mr. Seager would show them a complete set of drawings with this arrangement carried out, he thought it would be a wonderful revelation, because, as a general rule, in London one had to put a theatre upon a site which was somewhere between 20,000 and 60,000 superficial feet; and if a certain number of people could not be got into that place it would not pay. If more than 260,000 were spent upon it, it would not pay either, and to do all those things and to carry out the County Council's requirements was a most difficult thing to do. He knew exactly the theatre that Mr. Seager described in which some of those landings were. Some of the arrangements shown on the diagrams were most excellent; but in the case of others, as previous speakers had pointed out, the

people would jump over the seats, and would not think for a moment to go out as they should do. But that was only because it was impressed upon the mind of the public that the theatres were not fire-resisting. When theatres were built that would not burn, then people would be satisfied to go out at a leisurely pace; and if they did, they would be out of most London theatres in less than ten minutes. What he would like to see the County Council do (if they were going to revise their Regulations) was to prohibit the present form of screen to the proscenium, which was made of two thicknesses of asbestos cloth. That, he thought, was the most lax arrangement that the County Council had perpetrated for a great number of years. He had always been under the impression that if one put six men in a row, and gave them a good foothold on the ground, they would exercise more force than one man standing at the end. If there was no friction, and the surface to stand upon was perfectly smooth, then he did not think they would. Whatever chance the experiment had of succeeding, if conducted on scientific lines and with an equal and continuous pressure in one parallel direction, it would not resemble a crowd of persons pushing first in one direction and then in another, and swaying about. He would take an opportunity of trying the experiment as early as possible, just to see what would happen. At the present time his mind was not convinced. That did not, however, prevent his expressing how very pleased he was to hear some new development of this exit question, because it was only by the new developments that they would ever get any further on; and although some of the arrangements shown were, he was afraid, somewhat extravagant in the way of space, still, if they had the opportunity and the space and the money, there was no reason why they should not be done; and if they did them they would certainly be better than the present arrangements.

Mr. S. HURST SEAGER [F.], in reply, said he should like to thank the Meeting for the kind way in which they had received his Paper. He could but think that it was because they regarded him as a stranger; but it was hard to realise he was a stranger when he found himself among such excellent good friends. He could assure them that it was an extreme pleasure to him to have an opportunity of coming from the other side of the world, and meeting those who were so well known by name in them there. He had been in the Colonies—or, as they had now become, the Commonwealth of Australia and Dominion of New Zealand—for twenty-three years, and could assure them that all the names to which he could now attach such interesting personalities were as well known and revered on the other side of the globe as here in London. In reply to the criticisms he might say that he did not for one moment intend to bring before them details of construction, for there

were many present far more fitted than himself to carry out the principles enunciated. He only wished to bring before them some principles which the present methods of construction led him to believe had not been fully recognised. If these principles were recognised as those upon which construction should be based, then—with the amount of architectural talent among members present—they would without question be carried out in the most scientific and artistic manner. Mr. Max Clarke had spoken of the knowledge of a building being fireproof as being a safeguard against panic. They had only to remember that the Chicago building was known to be fireproof, and it was proved to be by practically no damage being done to the structure; yet 70 per cent. of those in the gallery were killed. It was no use telling people to sit quiet and it would be all right. When they saw a fire start in any part of the building, they would not stop to think. They would simply rush, and rush as quickly as they could. Then with regard to the diagrams, he must ask them to remember that they were simply rough ones hastily prepared, and intended to show principles only. He did not perhaps make it sufficiently clear in his Paper that he was dealing only with those imminent dangers which exist in present buildings, and showed methods of overcoming those dangers—if not wholly, at any rate to a very great extent. He did not claim that the alterations shown formed an ideal arrangement. If he had to start *de novo* to design a building for public use he would work wholly on the principles laid down, but it would in that case be unnecessary to resort to many of the expedients his diagrams suggested. He considered that the most perfect method that could be adopted was that by which all had the opportunity to rush from the ends of their seats direct to the street, or into corridors with non-resisting surfaces, whence they could pass into the street without any resistance being offered. All they could do for existing buildings was to minimise the very great dangers to be found in the great majority of buildings here and abroad.

MR. H. HEATHCOTE STATHAM [*F.* pointing to a diagram]: Are all the entrances shown there exits as well?

MR. SEAGER: Yes.

MR. STATHAM: That would mean a very large staff.

MR. SEAGER: There was now one entrance for each part of the house. It simply meant that the entrances would have to be doubled, and a man would have to be there for an hour or an hour and a half, at a cost of a few shillings each night. There were doubts still existing in the minds of some as to the truth of his statement that one man could withstand the pressure of four. The illustration offered to them of a boy being pushed off the end of a bench was not proof necessarily that he was

wrong, because the impact had to be counted there. If several boys got up any degree of speed, and pushed the other off, it was the momentum which had been created by the motion that caused the fall. That was rather a different principle.

MR. MAX CLARKE, referring again to the Chicago fire, said that the theatre was not finished. It had no hydrants and no fire-resisting curtain. The stage paraphernalia caught fire, the people were frightened when they saw that the curtain would not come down, and that created the panic.\*

MR. R. F. CHISHOLM [*F.*], writing since the Meeting, says:—

Mr. Seager's admirable and interesting Paper on Safety Exits deals only with those accidents which arise from blocking; but the most serious loss of life occurs from people falling and being pushed down in the frantic rush of a panic, and no power can prevent such accidents but individual control on the part of those forming the crowd itself. Prevention in such a case is much better than cure, and if leaving and returning to school in an orderly manner formed part of the daily instruction in all schools, there might be little loss of life from panic later on. We know how the presence of mind of a young girl playing the piano averted a stampede.

I think it would simplify Building Acts and By-laws if the single word "gangway" were used to designate stairs, corridors, and passages. A corridor is a passage, but a passage is not necessarily a corridor. Compare Amendment Act, 1878 part 1, section 15, with London Building Act, 1894, clause 80, section (c).

\* The following are extracts from the verdict given by the coroner's jury on 25th January 1904 at the inquest held after the fire at the Iroquois Theatre, Chicago:—

"Grand drapery coming in contact with electric flood or arc light situated on iron platform on the right hand of stage facing the auditorium."

"City laws were not complied with relating to building ordinances regulating fire-alarm boxes, fire apparatus, damper or flues on and over the stage and fly galleries."

"We also find a distinct violation of ordinance governing fireproofing of scenery and all woodwork on or about the stage."

"Asbestos curtain totally destroyed, wholly inadequate considering the highly inflammable nature of all stage fittings, and owing to the fact that the same was hung on wooden battens."

"Building ordinances violated in closing aisles on each side of lower boxes and not having any fire apparatus, damper, or signs designating exits on orchestra floor."

"Building ordinances violated regulating fire apparatus and signs designating exits on dress circle."

"Building ordinances violated regulating fire apparatus and signs designating exits on balcony."

I only give the above, as they show that, although most of the theatre was of a fire-resisting nature, it was defective in so many respects that it could not have been worse if built of wholly inflammable material, and it is a lesson to authorities with regard to fire-resisting curtains.

MAX CLARKE.



9, CONDUIT STREET, LONDON, W., 11th January 1908.

## CHRONICLE.

### The Parting of the Ways.

To-day, for the first time since ten years, this JOURNAL makes its appearance under another guidance than that of our late Secretary; and I am asked to contribute a few lines to mark the occasion, and express—as well as I may—on behalf of the general body of members of the Royal Institute, the sincere regret which they feel at his resignation of the office he had held so long and filled so well. It is with a reluctant diffidence that I do so—I am too close a personal friend of Mr. Locke to pretend to impartiality in speaking of him—yet, I think perhaps the members themselves would wish their tribute of appreciation to be not too impersonal, too nicely weighed, nor closely calculated. For, after all, we are bidding Farewell! to a man who has made himself the friend of a whole profession. Unvarying, unaffected courtesy has been extended to us all, whether in time of slumberous peace or of rousing combat; and the charm of his own comity has had its softening influence upon the acerbity of our necessary polemic. This is not the place, nor am I the proper person, to speak of his work as a Secretary, his relations with our colleagues abroad, or of his brilliant achievement in literature. It is a commonplace in Art that distance, both of time and place, is essential to correct appreciation; but I will hazard the prophecy that those of us who live to look back on the period of Mr. Locke's Secretaryship will mark it as a time of great advance in the position of the Royal Institute, and will allot to him no small share in its progress.

It is, as I know, with real sorrow that he has left us, although, as all hope, with pleasant memories; while we, uncertain yet of the full measure of our loss, entwine our wreath of regrets with gladness for the manner of his going, and wish him—God-speed!

"Farewell!

The charter of thy worth gives thee releasing."

JOHN W. STIMPSON.

### Honours Examination in Architecture.

At the Business Meeting of the 6th January, Mr. CHARLES R. GUY HALL [F.A.], in accordance with notice, brought forward the following motion, viz.: "That the Council be desired to consider the advisability of holding an examination in Honours, and to report to a General Meeting." Mr. Hall said he was not suggesting that an examination should be set up of an academic character. The Examinations of the Institute, which included papers on Construction, Materials, Specification Writing, and Professional Practice, were most excellent, and went to the root of their respective subjects; but, as regards the sphere of actual building, the subjects to which the candidates were limited consisted of a detached villa, a local parsonage, or buildings of that description. He was conceiving in his own mind an examination which would prove of benefit and of assistance to architects in practice. Having emerged from the atmosphere of the Institute Examinations, it was necessary for them to specialise in one specific branch of architecture, and possibly in more than one branch. It seemed to him that the Institute did not come to the assistance of the individual architect as much as it might do. The sphere of practical architecture was divided into some eight branches—viz. (1) Residential Architecture, consisting of town houses, flats, and country houses; (2) Commercial Architecture, consisting of banks, hotels, and business premises; (3) Municipal Architecture, consisting of town-halls, public libraries, baths and wash-houses; (4) Educational Architecture, consisting of schools, colleges, and technical institutes; (5) Ecclesiastical Architecture, consisting of cathedrals, churches, and chapels; (6) Medical Architecture, consisting of hospitals, convalescent homes, and asylums; (7) Theatrical Architecture, consisting of theatres, music-halls, and concert and assembly rooms; (8) National Architecture, consisting of monuments and public buildings. The Institute, he thought, would come to the assistance of the individual architect if it were to schedule and tabulate the literature bearing on each of those specific divisions of architecture. At the same time the Institute might give them plans of two or three of the most recent buildings erected, and, above all, make arrangements by which an architect could inspect those buildings, so as to see not only a portion of the structure, but the working of the building, its heating and ventilation, &c. The architect would in that way acquire knowledge in a much more practical manner, and in much less time than if he were left to "rough-hew his ends" as best he could. He was doubtless suggesting, not merely one examination, but a series of examinations; so that the architect who found his practice giving out, as it were, in residential architecture, might be able to specialise in another branch, and submit himself for examination in that branch. It might be said that this

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would involve the laying down of a vast amount of efficient machinery; but it must be admitted that they all had to attain this special knowledge, and when the Institute Examinations only required of them a knowledge of a detached villa or some simple building of that kind, they could not go into action as well equipped as they ought. If there were any branch of medicine or surgery, for instance, which it was necessary for a medical practitioner to be acquainted with, not only would an examination be held in it, but the subject would be fully mapped out and surveyed for the physician or surgeon who required to be equipped in that particular branch.

The PRESIDENT asked if it was the practice among physicians and surgeons to have an examination for Honours in any special branch of their profession.

Mr. GUY HALL said he believed that the symptoms of every disease that man could be afflicted with were entirely diagnosed and put before the candidate; and the latter would be required to diagnose the particular complaint, and show in what manner it should be treated. He should say that there was no department of medicine or surgery which was left unexamined upon. In the architect's case there was no special examination whatever. He entered practice after passing an examination in what might be called an elementary branch of architecture, and imagined he was equipped for his profession; but he quickly found that he was not, and to specialise in any one of the various branches meant a very big business. He would leave the proposal with the Meeting; if they thought it was efficiently workable and practicable and sound it might meet with their approval.

Mr. WM. WOODWARD [F.] said he remembered a good many years ago a work being brought out on Dilapidations, and another on Bills of Quantities, and another on the Duties appertaining to the Architect, the Client, and the Builder; and he was under the impression that if those books had been thoroughly digested the work of the surveyor would come to an end. But, as a matter of fact, it was always difficult to digest such technical works; the more one attempted to digest them the more it was found that they contained what one did not want, and did not contain what one did want. If he understood Mr. Hall rightly, he proposed, for example, that an architect who had made hospitals or residences a specialty of his practice should convey to the student or to the young architect beginning practice the experience and the results of that special knowledge which he had been for many years endeavouring to attain. If that were so—he might, perhaps, have misunderstood Mr. Hall—all he could say was, that if a young architect had been commissioned to build a hospital, or an hotel, or a town-hall, or a residence, he would find, if he went to a hospital, a town-hall, an hotel, or a residence,

that he could obtain from that building all that he required. To ask an architect who had attained eminence in his profession after years of practice in a particular branch to place all that knowledge at the disposal of the young architect or student was, he thought, asking too much. Such an examination as Mr. Hall suggested would be to sink the brains of the specialist. The young architect who desired to attain proficiency in any particular branch had all the opportunity that the architect had who had attained that proficiency by practice, by study, and by experience, and he did not think it would be for the benefit of the profession, or of the student, or of the public that they should impart to this young architect the special knowledge which had only been attained as the result of study and experience, and of a long life in the profession to which the specialist had devoted himself.

Mr. J. NIXON HORSFIELD [A.] said that, speaking from the examinee's point of view, when he had got through his three examinations he did not want to have to label, docket, and pigeon-hole himself as an ecclesiastical architect, or any other kind of architect. A friend of his who had been brought up in an ordinary office told him that when he started on his own account he waited for clients, and happened to get a job pretty quickly, and that job was to build a racecourse. He did not know anything about racecourses, but he crammed up the subject and built his racecourse. The next thing he got was a church. He did not know much about churches, but he put up a church. After that he got tired of it and started building for himself, and then he made some money! He did not suggest that that was the ideal of every architect; but however his practice might begin, it grew, it could not be foretold; it could not be prescribed by a series of eight distinct Honours Examinations. The Honours were to be won in the practice of architecture, not in the examination room.

Mr. EDWIN T. HALL [F.] said that as he understood it the proposition was that if a man was practising in one branch, and wanted to practise in another, he should first pass through an examination at the Institute in that particular subject in which he wanted to practise, and then get an Honours certificate or diploma in that subject. That reminded him of the story of the man who wanted to employ a boy, and he told the boy his duties would be to clean the boots, to clean the knives, to carry up the coals, to do the gardening, attend to the pony, wash the carriage, and various other things. And the boy asked: "Have you any brick-earth on your premises, sir?" The man said: "No; why?" "Because," replied the boy, "I think in my spare time I might make bricks." It seemed to him that an architect was too fully occupied to go through a series of examinations in order to enable him to specialise in a particular

branch of architecture. His own experience was that the examinations were quite enough as they were at present, and that an Associate ought to be rejoiced when he had got through them and could devote the rest of his time to qualifying himself by study and practice to take up any branch of his profession.

Mr. MAURICE B. ADAMS [F.] said he thought that the impression should not be quite left in the way Mr. Woodward seemed to leave it. A student had the utmost facility afforded to him by various specialists in the Institute. Take the Architectural Association, for instance; the students from Tufton Street were able to go over many buildings which were very special in character, and he was convinced that every architect would be only too willing to afford those opportunities to *bona-fide* students. He did not think it should go out to the world that there was any disinclination on the part of Fellows of the Institute to help students to obtain any knowledge that they might wish to acquire.

THE PRESIDENT: I do not think that was Mr. Woodward's idea.

Mr. ADAMS said he was sure it was not; but the impression upon his mind was that such a construction might be conveyed by reading what was said. He thought that, particularly after a certain discussion they had had recently, it ought to be on every occasion made clear that the senior members of the Institute were only too willing to afford every facility they could to students.

Mr. Wm. WOODWARD: I am very glad Mr. Adams has mentioned this, because next Saturday I hope to have the opportunity of taking members of the Architectural Association over the Piccadilly Hotel.

THE PRESIDENT: And you will teach them as much as you can?

Mr. WOODWARD: That is my intention.

THE PRESIDENT having called for a seconder, and no one responding, Mr. Hall's motion fell through.

#### The Annual Exhibition of Prize Drawings.

The exhibition of designs and drawings submitted in competition for the Prizes and Studentships in the gift of the Institute will open at the Gallery of the Alpine Club on Tuesday, the 21st inst. The entries this year are exceptionally numerous, and the number of strainers sent in far in excess of any previous occasion. Last year the entries numbered 60, with 269 strainers. This year there are 94 entries, with 444 strainers. To display effectively this large collection of drawings has been a matter of considerable difficulty. Every inch of hanging space in the main gallery has been utilised, the staircase leading to it has been brought into requisition, and a room on an upper floor has been engaged. This upper room should not be missed by visitors, as it is devoted exclusively to the Hospital Designs sent in for the

Henry Saxon Snell Prize. The present is the first competition for this valuable prize.

#### The Preservation of Winchester Cathedral.

Mr. Francis Fox, M.Inst.C.E., who is collaborating with Mr. T. G. Jackson, R.A., in the work now in progress at Winchester Cathedral, in a letter to *The Times*, published on the 6th inst., replies to some of the criticisms contained in the report made on behalf of the Society for the Preservation of Ancient Buildings [*Times*, 31st December], and gives some idea of the difficulties which have to be overcome in the work of making good the foundations. Mr. Fox says:—

In consequence of the grave condition of the fabric the Dean called for expert advice, and Mr. T. G. Jackson, R.A., the diocesan architect, and Mr. J. B. Colson, architectural surveyor to the Cathedral, reported upon it; but as the chief source of the difficulty was underground and, therefore, out of sight, and as it involved very serious engineering problems, it was deemed advisable that an engineer accustomed to deal with bad foundations should also be consulted, and at Mr. Jackson's request I was asked to collaborate with him.

Mr. Jackson, with much careful forethought, had caused a trial pit to be sunk near the Cathedral whilst he was engaged in timbering up the building inside and out, and succeeded in finding a fine bed of compact gravel at a depth of some 16 feet below the old foundations, from which he decided to underpin the walls; short of this depth there was no solid bottom.

The ancient builders in A.D. 1079 and again in A.D. 1202 had sunk their excavations to as low a level as their rude appliances would allow, some 10 feet below the surface. They came to a bed of marl and also to water-level, and to form a foundation they placed beech trees side by side in the trenches in a horizontal position, and on these they founded the Cathedral.

There is conclusive evidence that subsidence of the building took place at a very early date, possibly from the commencement, and wide cracks appeared in the walls. These have been from time to time hidden from view by the insertion of new stones on the face of the walls; but again cracks appeared, buttresses have moved seriously out of the upright, one gable overhanging to-day more than 4 feet, and stone has fallen from the roof-arching.

It was necessary to find out the cause; and by means of this trial pit it was discovered that the bed of marl was only 6 feet in thickness, and was resting on soft peat, similar to an Irish bog, some 8 feet in depth. This peat has compressed probably from a considerably greater thickness, and has caused distortion and cracking of the walls in all directions; and the very serious problem had to be solved as to the best method for carrying down the foundations to the gravel bed underlying the peat.

Pumping was plainly inadmissible, the use of compressed air was inapplicable, screw piles and caissons were considered and rejected, a slab of concrete on which to float the Cathedral was impossible, and finally it was decided to employ a diver, by which means the work is done quietly, noiselessly, and without vibration.

Although nothing below the ground is visible to the eye of the public, as a result of expenditure, still we are able to report that so soon as each pit or length of excavation is completed and filled up with concrete the fabric is resting on a solid foundation, good for all time. . . .

The Cathedral authorities stand in need of all the encouragement and assistance they can obtain if they are to preserve this national memorial for the use of future generations. It is the burial place of several of our Saxon kings, and is hound up in the history of our country through the whole line of Sovereigns to the present date; but it is in jeopardy, and is sinking, and in actual movement to-day in those parts in which underpinning has not been executed. Although this operation is of the utmost necessity for the preservation of the building, one-half of the excellent workmen have had to be discharged for lack of funds.

To complete this urgent work a period of at least three or four years will be required, and therefore every day lost now is to be deplored, as the repairs will not brook delay.

Those engaged in the work, and who love these ancient buildings, will not allow an old stone, with its weather-worn edges, its mossy appearance, and with all its history, to be touched, much less discarded, unless it is actually crushed and broken; the work is being done with the most profound solicitude and reverence, and all we ask for is kindly assistance and practical help.

#### The Excavation of Herculaneum.

The *Times* correspondent, telegraphing from Rome on the 1st inst., says that Signor Rava, Minister of Public Instruction, has appointed a special commission to direct and supervise the excavations at Herculaneum, composed of Commendatore Gattini, Administrative Director of the Museum of Naples, Signor de Petra, Professor of Archaeology of the University of Naples, Professor Gabrieli and Professor Dall'Osso, both of the Museum of Naples, Professor Sogliano, director of the excavations at Pompeii, Commendatore Avena, director of the technical office of the monuments of Naples, and finally two civil engineers of the province of Naples. The work done, the finds and discoveries, and anything interesting will be described from time to time in official publications, for the benefit of home and foreign students and scholars.

#### Société Centrale des Architectes Français.

Monsieur J. GUADET, the distinguished Professor at the Ecole des Beaux-Arts, Paris, and author of *Elements et Théorie d'Architecture*, has been elected President of the Société Centrale des Architectes Français. M. Guadet was awarded the Grand Prix de Rome in 1864, and is the architect of the National Post Office, Paris.

#### The late Edward George Hayes.

Mr. E. G. Hayes, who died on the 21st ult., at the age of sixty-four, was elected an Associate of

the Institute in 1876, and resigned his membership on retiring from business a year ago. Mr. S. Cecil Searle [A.], in a letter to the Institute announcing the sad news, says: "Mr. Hayes joined my late father and myself in partnership in the year 1876, and our business connection was only terminated by his retirement last year after over thirty years of partnership. He will be remembered as having served the Architectural Association in several offices, including that of President. A hard worker, a firm friend, and a man of a perfect integrity in his personal relationships, Mr. Hayes was of a peculiarly retiring and unassuming disposition, and never sought recognition." The Hon. Secretary, Mr. Alexander Graham, F.S.A., in formally announcing the decease at the General Meeting last Monday, said that many would recall the years 1880 to 1883 when Mr. Hayes was President of the Architectural Association, succeeding Sir Aston Webb in that office of distinction, and being followed by Mr. Cole Adams. The distinction achieved by Mr. Hayes in those days was well known to them, and they would all lament his death as a great loss to the Institute and to the Association.

## REVIEWS.

### THE ARCHITECTURE OF GREECE AND ROME.

*The Architecture of Greece and Rome: a Sketch of its Historic Development, for the use of students and others.* By William J. Anderson, A.R.I.B.A., Author of "The Architecture of the Renaissance in Italy," and R. Phené Spiers, F.S.A., F.R.I.B.A., Correspondant de l'Institut de France, Hon. Member of the American Institute of Architects, and Author of "Architecture, East and West," &c. Second edition, revised and much enlarged. 1s. 8s. London, 1907. Price 18s. net. [B. T. Batsford, 94 High Holborn.]

The work planned and begun by the late regretted W. J. Anderson and completed by Mr. Phené Spiers was the first English monograph of modern times which attempted to group together comprehensively the scattered material relating to classical architecture and at the same time to place it in the historical setting without which it cannot be intelligible. Relegating to the background those arid technicalities with which we were all too familiar in our youth—those terrible "amphidistyle-in-antis," "hexastyle pseudo-dipteral," and so forth—they presented the architectural development in its true relation to history and the state of contemporary civilisation, thus making the dry bones to live and to yield matter of real educational value.

It is a hopeful omen for architectural studies that within five years a new edition should be called for, testifying as it does to the widely felt need for such a work. It is also a happy thing

that Mr. Spiers should have this opportunity of bringing his book up to date. In an age when every year bears its share of discoveries fraught with explanations of old difficulties and with new problems to be solved, frequent revision of conclusions is a necessity.

The work of Schliemann in Argolis and the Troad a generation ago, that of Dr. Evans and the Italian school in Crete in the last ten years, each revealed the existence of a hitherto unsuspected civilisation and revolutionised our ideas on the origins of classic art, while the systematic exploration of Rome has cleared away many obscurities and misconceptions. In another five years we may look for still further evidence on prehistoric Greek culture, leading perhaps to further modifications of present conclusions, while such excavations as those now undertaken by the French Government at Cyrene and by the Italian Government at Herculaneum may be expected to give us fresh insight into later Greek and Roman antiquities.

As in the previous edition, the results of recent exploration—e.g. in the Roman forums, the Palatine, the Pantheon, or the subject of interaction of Oriental and Roman art in the Imperial Age—could be treated in a manner impossible to earlier writers, so in the second Mr. Spiers is able to incorporate an account of the Cretan finds, and to make good use of the light which they cast on primitive Greek architecture. The possibly non-Hellenic Cretan empire, which according to Prof. Burroughs passed through nine distinct stages of culture, all traceable in the strata of *debris* at Cnossos, and terminated almost before the dawn of even the legendary history of Greece, is now seen to have exercised an influence formerly ascribed to Egypt and Persia on the art of the Greek mainland and islands. The well-known remains at Mycenæ proving to be a local manifestation of a widespread culture, the term "Egean" is now substituted for "Mycenaean" as a designation for prehistoric Greek art.

While the earlier chapters thus naturally contain the greatest amount of new matter, most of the subsequent ones have also gained in fulness by the inclusion of descriptions of buildings only slightly referred to before. Very interesting is the information given about Roman construction, and in view of the self-righteous strictures on classic architecture on the part of Gothic enthusiasts, to which we have been too long accustomed, particularly instructive are those passages in which Mr. Spiers brings out Roman anticipations of mediæval vaults and the structural character of much in Roman buildings which has often been stigmatised as unnecessary applied decoration.

On the other hand, the description of the construction of the dome of the Pantheon might be improved. As it stands and without a diagram it is really not intelligible. Is it one homogeneous mass without thrusts; and does it contain the

pottery jars which figure in some descriptions? These points require at least a passing reference. Some notice too of the Septizonium of Severus, the colonnaded streets of Timgad, and the Porte de Mars at Besançon would be welcome.

The present generation of architects has welcomed into its ranks members of the gentler sex, but it appears that it cannot plume itself on this fact as a novelty; for on p. 113 we learn that in 334 B.C. there was a talented lady at Miletus who collaborated in the design of the temple of Branchidæ.\* This is, of course, a slip, and should with the following minor points be corrected in another edition. On p. 270 Marcus Aurelius is identified with Antoninus Pius, though on p. 274 he is correctly stated to have been the latter's adopted son. On p. 104 a remark about a point of design in Defrasse's work is valueless without illustration or description. On p. 109 (note) "portion" appears to stand for "variety." No explanation of No. 12 in the plan of a Pompeian house (p. 305) is given. Some remark is needed in reference to the large arched openings shown in the illustration of the Stoa at Alinda (p. 138). Such features are, to say the least of it, unusual in Greek work.†

Speaking generally, a slight tendency to repetition might be repressed in a further edition, e.g. Middleton's remark about pozzolana is given both on p. 163 and p. 168; the observation that the Romans availed themselves of hilly sites for theatres is given twice, once qualified by "occasionally" (p. 231), once by "always" (p. 294). The last sentence on p. 316 practically repeats a remark on p. 313.

The illustrations have been increased from 199 to 255, and the number of new ones is greater than the difference between these figures, for several whose interest was not strictly architectural and others which subsequent research has put out of court have wisely been eliminated. We are now given plans and other illustrations of many buildings illustrated less fully or not at all in the first edition, e.g. in the Greek section the Palaces of Cnossos and Palatitza, the Sanctuary and Hall

\* Daphne is a feminine form. The architect's name was really Daphnis.

† On p. 291 "seventeenth century" should be "eighteenth." Antæ capital should read either "antæ cap." or "antæ cap." p. 61. On pp. 97 and 255 "exedra" is printed instead of the plural "exedrae," cf. "stelo" for "stela" (p. 117), and "fascia" for "fascine" or "fascina" (p. 82). "Capitol" should read "capital" (p. 194), "joists" should read "rafters" (p. 303), "or Branchidæ" should read "at Branchidæ" (p. 113).

The following wrong references to illustrations are given: "Ill. 49" for "Ill. 48" (p. 95), "Ill. 117" for "Ill. 119" (p. 138), "Ill. 157, p. 194" for "Ill. 157 between pp. 188 and 189" (pp. 159 and 227), "Ill. 45, p. 57," for "Ill. 45, p. 56" (p. 183). There appears to be no plate corresponding in number and description with "Plate V" quoted on p. 95. The illustration on p. 134 has no number; it should be 117.

of the Mysteries at Eleusis, the city of Olympia, the Thersilion at Megalopolis, and in the Roman section the Basilica of Constantine, the Theatre of Marcellus (we still miss the arch of Septimius Severus), and in both a long list of temples. Among the illustrations now substituted for rejected ones Mr. Spiers's conjectural restoration of the entrance to the so-called tomb of Agamemnon is specially interesting (p. 20). Further, a number of new examples of detail are also figured.

Another excellent feature of this edition is the inclusion of maps of Italy and Greece; their value would, however, be enhanced by revision. Unimportant names (e.g. Samothrace, Thera, Cotrone), which are not mentioned in the text, might well be omitted; while, on the other hand, we miss others which do occur (e.g. Alinda, Attica, Bassæ, Branchidæ, Corneto, Delos, Norchia, Palatitza). Again in the Italian map Volci in Etruria is not to be found, but in its stead we have Vulci in Lucania, a totally different place and devoid of architectural interest. It is perhaps impossible to be entirely consistent in the selection of the form of names, but in these maps the variety is unnecessarily bewildering. If we are to have the Italian Assisi, Cervetri, Palermo, Pozznoli, Rimini, Spalato, Taormina, instead of their Latin equivalents, why not also Chiusi, Girgenti, Palestrina, Pesto, Taranto? The Greek names of Greek cities should also be inserted side by side with the Latin or modern ones (e.g. Acragas, Posidonia), especially when Selinus is given and not Selinuntium. Again, names printed in large type are capriciously selected; the obscure Ætolian Thermos looks more important than Athens and much more so than Sparta, while Troy and Rhodes are eclipsed by Massa and Aizani.

A full register of Greek temples is now provided, and there seems no reason why a similar Roman list should not be added. It is regrettable that here, and indeed throughout the book, Greek gods should not have their own Greek names instead of those belonging to the far more prosaic divinities with which the Romans identified them, often on very inadequate grounds. Such appellations as Ceres of Eleusis, Minerva Polias, Juno of Samos, Jupiter Olympius, Neptune of Pastum (where the very name of the city is derived from Poseidon), are anathema to all lovers of Hellas. Mr. Spiers's standard of nomenclature (p. ix) is, after all, only a counsel of despair; and if people do not know that Diana of the Ephesians is Artemis, it is high time they did.

The glossary, which is half as large again as in the first edition, is proportionately increased in utility. Among the corrections introduced are those of the misspelling "Aecus" and "Bouleterion," and a justification of the term "Epimach." Such terms as astragal, cavetto, opus incertum, opus reticulatum, opus sectile, peribolos, polos, torus,

which occur in the text, might well be defined here; it would also be useful for non-classical scholars to have the accent and quantity in doubtful cases marked for them, e.g. Póstiŋum, Nôanon, Opisthódōmus, Pinacothēa, Cárēres.

Surely the definition given to "Apteros" applies only to the word "Apteral." In any case the paragraph as it stands is misleading, and likely to cause the unwary student to imagine that the adjective in "Nike Apteros" applies to the temple and not to the goddess, a reading incompatible with Pausanias, I. xx. 4: "τὸν δὲ προσελαίωτο ἡ θεὸς Νίκης ἔστιν Ἀπτέρων τῆος." It would be well to indicate (in a note to p. 71) that the more accurate designation is "the temple of Athene Nike." Nike was always winged, but here she was identified with Athene, who never had wings (cf. Frazer, *Paus.* II. 257). Pausanias himself (III. xv. 5) accounts for the absence of wings by saying "the Athenians had a notion . . . that she [i.e. Victory] will always stay where she is because she has no wings."

The definitions of "gymnasium" and "palaestra" adopted in the first edition are maintained, though so dogmatic a pronouncement on the subject of an unsettled controversy of at least sixty years' standing is scarcely justified. The view that the gymnasia were *private* schools giving regular instruction in physical energies to boys, and the palaestra *public* establishments where youths and adults already trained resorted for practice and exercise, but where no regular training for the games or for professional athletes was given, seems indeed to be more generally held by scholars (cf. Smith's *Dictionary of Classical Antiquities*, 1891, "Palaestra"); but it only applies to the best period of Greek civilisation, and perhaps chiefly to Athens (cf. Grashöfer, *Erziehung und Unterricht im klassischen Alterthum*, ii. 254). On the other hand, the view that the gymnasium was the general name for places of physical culture, which were used especially for races and the pentathlon, and that they usually, but not invariably, comprised a palaestra devoted to boxing, the pancration, and particularly, as the name implies, to wrestling, is held by competent authorities (cf. Daremberg and Saglio, *Dict. des Antiquités*, 1896, "Gymnase"). Such a passage as Plautus, *Bacch.* III. iii. 22:

Ante solem nisi tu exorientem in palaestram veneras.  
Haud mediocriter gymnasii profecto penitus penderes,

fully tallies with this view.

The Romans, in whose life physical training for well-born boys formed no integral part, as it did with the Greeks, but was rather looked askance at, appear to have used the terms indiscriminately, or to have made a distinction, if anything, rather in the use to which gymnasia and palaestrae were put than in the age of the athletes. From Catullus in his *Attis*, l. 60,

Abero foro, palaestra, stadio, et gymnasiis,

it is clear that both were frequented by a young man; and from ll. 63, 64,

Ego adolescens, ego ephebus, ego puer,  
Ego gymnasii fui flor,

that boys, youths, and young men alike used the gymnasium. It follows from these various considerations that the definitions given require to be qualified.

It is pleasant in conclusion to turn from the ungrateful task of the critic to the more congenial one of congratulating both author and publisher on the appearance of this interesting work. Such minor blemishes as have been mentioned should not detract from the gratitude due to Mr. Spiers and to Messrs. Batsford for giving us this greatly improved edition of a book which has become a standard authority for English-speaking students.

WM. HENRY WARD.

### MEDIÆVAL BRICKS.

THE mention of "brike" in 1437, quoted in Mr. Ralph Nevill's interesting note in the *JOURNAL* of 7th December (p. 114), is evidently a very early instance of the use of the word, for the earliest example in the "New English Dictionary" is dated 1440. But the *thing* brick was made and used in England long before the fifteenth century. Before the foreign word was introduced, bricks were called tiles (*tegulae*), as in the passage quoted by Mr. Nevill. The old name does not seem to have been superseded in the north of England until the second half of the sixteenth century. So, in the lists of York freemen, we find the names of a family of bricklayers, thus:—

36 Hen. VIII., Willelmus Leng, tyllour.

9 Eliz., Willelmus Leng, tyller, fil. Willelmi Leng, tyller.

16 Eliz., Thomas Leng, tyler, fil. Willelmi Leng, tyler.

41 Eliz., Michelus Lenge, breklayer, fil. Willelmi Leng, breklayer.\*

With regard to the authorities mentioned by Mr. Nevill, who have endeavoured to persuade us that all bricks of this (fifteenth century) time were imported, their opinion appears to have been accepted by Professor Thorold Rogers, who wrote:—"Our forefathers do not seem to have made bricks till long after the period before us" (i.e. 1259-1400) "not perhaps from ignorance, but from indifference, for it is certain that they manufactured tiles, a much more difficult art."† This is certainly a mistake, due perhaps to the Professor not having been aware that "tiles" may have denoted either "wall-tiles,"

which at a later time came to be called bricks, or "thack-tiles" (roofing-tiles). Some years ago I compiled a table of prices from Hull, Beverley, and York of wall-tiles (bricks) and thack-tiles from the beginning of the fourteenth to the middle of the fifteenth century;‡ and, comparing the prices in this table with those of "tiles" in Professor Thorold Rogers's great work, it is in many cases easy to distinguish wall-tiles from thack-tiles, since the former were generally about half the price of the latter. That bricks were made in England, and not imported, is sufficiently proved by the fact that from at least as early as 1303 onward the Corporation of Hull made bricks at their own brickyard.§ Possibly some of these bricks survive in the transept of Holy Trinity Church, Hull (first quarter of fourteenth century), where they measure from about 9 inches by 4½ inches by 2¼ inches to 9½ inches by 4½ inches by 2½ inches. The bricks in the chancel of this church (second quarter of fourteenth century) measure 10½ inches by 5 inches by 2¼ inches. The bricks used for filling in the vault-cells of the nave of Beverley Minster (second quarter of fourteenth century) measure about 10½ inches by 5½ inches by 2 inches, and those in the North Bar at Beverley (1409-10) are of the same size. The differences in size may therefore be a matter of locality rather than of date.

Mr. Reginald Blomfield believes that the reintroduction of brickwork was due to Flemish immigrants, because (1) there is no evidence of the use of brickwork before the reign of Edward I., and because (2) its first appearance in the eastern counties was subsequent to the settlement of Flemings in those counties, or rather almost coincident with their arrival. These are very much the same arguments as those used by Professor Thorold Rogers,¶ put back a century or more in date. I am not sure that there are not, in the eastern counties, examples of brickwork which date from before the reign of Edward I., and if Flemish immigrants made the moulded bricks in the "Chapel Barn" at Coggeshall, Essex, or if they taught the Essex men to make them, they used English and not Flemish profiles. An account of the foundation of the abbey of Kirkstall, probably of early date, although only now existing in a fifteenth-century MS., tells us that all the buildings of the abbey (begun c. 1152) were covered with tiles.\*\* The correctness of Mr. Blomfield's opinion is, in the nature of things, difficult of either proof or

† *The North Bar, Beverley*, in the *Transactions of the East Riding Antiquarian Society* (1896), iv. 48.

§ The accounts of this brickyard, with interesting details of the cost of its working, appear on the Pipe Rolls and on the Hall Ministers' and Chamberlains' accounts. Some of the prices are included in my table mentioned above.

|| *A Short History of Renaissance Architecture in England*, 260-2.

¶ *Op. cit.* iv. 434.

\*\* *Mon. Angl.* 1825 ed., v. 331.

\* *Register of the Freemen of the City of York*, ed. by Dr. Fras. Collins (*Surtees Society*, vols. 96 and 102), i. 265; ii. 9, 16, 44.

† *History of Agriculture and Prices*, i. 254. Cf. also i. 486 and iv. 434.

disproof; but it seems to me that further investigation and a comparison of the earliest examples in the two countries are necessary before this opinion can be unhesitatingly accepted. I do not see any reason why similar conditions—the absence of good building stone and the presence of suitable clay—should not have led to the revival of brick-making in the two countries independently of each other.

JOHN BILSON, F.S.A.

### THE THEORY OF "REFINEMENTS."

To the Editor JOURNAL R.I.B.A.,—

SIR,—Your correspondent Mr. Deas makes me the appeal that I have virtually accepted mediæval "refinements" both by my writings and in my buildings. It must seem ungracious to protest when he puts his insinuations so courteously and with so much compliment. But if your correspondent had read further in the article from which he quotes, he would have seen that my sympathy with Mr. Goodyear went no further than that appreciation of his industry and beautiful photographs which is due to him on all hands. And indeed, if Mr. Deas had looked forward in the files of the *Architectural Review*, he would have read in Mr. Goodyear's replies that I was on no account to be regarded as a disciple—as indeed is true.

Then as to my own works of church-building, what contribution can they make to Mr. Goodyear's views? When Mr. Deas and myself draw our churches we condition their forms simply by our pencil and our paper. We can introduce "deflections," "bends," "refinements," as our tastes incline, and can get our churches built with any "asymmetry" or deformation that we may fancy. All architects' designing is in a sense *deformation*, since it twists the facts of building to the requirements of the æsthetic fancy. But my reading of ancient building forbids me accepting mediæval architecture as designed in this way. I do not believe that its forms were fanciful *deformations*, but expediencies founded directly on the structural needs. For example, to take a "refinement"—outside Mr. Goodyear's investigation—that of the pointing in the arch. In our architects' designing this is an interference with structural necessity proposed on ideal grounds. But with the mediæval builder the pointed arch was the constructive necessity of the time. So with the "bends" and "deflections" that we may simply call batters, cambers, &c.—our use of such things, since it is fanciful, can be no criterion for the mediæval use, which was practical.

Again, we architects design our churches in a couple of months, and aim to have them built in a couple of years. But were there not some centuries and a dozen purposes in the fabrics of most mediæval cathedrals? The difficulty of Mr. Good-

year's view is that it seems to propose to use personal activity of design exercising itself on such things as "bends" and "deflections" when these have come into existence in the course of great stretches of time and by the hands of many generations of builders! One can conceive without difficulty of the handing down of the broad ideals of building—height, breadth, richness, or vista. The accentuation of some principal feature might be continued in a building of many ages. But when the "refinements" are of inches in lengths of hundreds of feet, and the consummation of a "bend" is at an interval of a generation or two after its commencement, the theory of such a scheme requires a special machinery. I feel that a secret constructional guild is hinted at—an organisation responsible from first to last for mediæval building, and handing on the sacred mystery of "refinements" from generation to generation. But such a supposition makes a "large order," and I should be glad for some one in sympathy with Mr. Goodyear's views to indicate exactly the grounds of such a theory.—I am, Sir, your obedient servant,

EDWARD S. PRIOR.

### MINUTES. V.

At the Fifth General Meeting (Business and Ordinary) of the Session 1907-08, held Monday, 6th January 1908, at 8 p.m.—Present: Mr. Thomas E. Collett, *President*, in the Chair; 34 Fellows (including 11 members of the Council), 32 Associates (including 1 member of the Council), and a few visitors, the Minutes of the Meeting held 16th December 1907 (p. 141) were taken as read and signed as correct.

The Hon. Secretary announced the decease of Edward George Hayes, elected *Associate* 1876, retired 1897; and Frank John Brewer, *Fellow*, elected 1891.

Mr. Robert Henry Kerr, *Fellow*, attending for the first time since his election, was formally admitted by the Chairman.

The following candidates for membership were elected by show of hands under By-law 8:—

As *FELLOW*.

SAMUEL HURST SEAGER [i. 1884], of Christchurch, N.Z.

As *ASSOCIATE*.

WALTER GODFREY GREEN [*Special Examination*, 1907].

The Hon. Secretary having formally acknowledged the receipt of books presented to the Library, a cordial vote of thanks was passed to the various donors.

Mr. Chas. R. Guy Hall [F.] having moved, in accordance with notice, "That the Council be desired to consider the advisability of holding an Examination in Honours, and to report to a General Meeting," the motion was discussed, but failed for want of a seconder.

Mr. S. Hurst Seager [F.] read and illustrated by models and diagrams a Paper on SAFETY EXITS FOR THEATRES AND OTHER PLACES OF ENTERTAINMENT, and the subject having been discussed a vote of thanks was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.



FIG. 1.—PALACE OF LINLITHGOW, IN SIXTEENTH CENTURY.  
From an Old Print.

## THE ROYAL PALACES OF SCOTLAND.

By W. T. OLDRIEVE, F.S.A. Scot. [F.], Principal Architect for Scotland  
to H.M. Office of Works.

Read before the Royal Institute of British Architects, Monday, 20th January 1908.

### INTRODUCTION.

IT may be a surprise to those who have not studied the subject of this Paper to learn that there are remains of about twenty royal palaces in Scotland. Although most of these are in ruins, all are of great interest historically, while some, as I hope to show presently, are of much interest architecturally.

The reason for the largeness of the number of these ancient royal dwellings lies, first, undoubtedly in the fact of the restless and divided political state of Scotland during the period when the earlier royal castles were built, *i.e.* between 1200 and 1500. The mountainous nature of the country and the consequent difficulty of communication probably also led to the multiplication of royal palaces, while the earlier royal residences, being also fortresses, were needed at strategic points of the divided kingdom.

The following is a list of the royal palaces of Scotland with which I wish to deal. In many cases the work of building was carried on by successive kings, and it is not possible to furnish specific dates.

Hoxburgh Castle . . .	1100-1600
Traquair House . . .	1100-1700
Rothesay Castle . . .	1200-1300
Kildrummie Castle . . .	1200-1350
Dunstaffnage Castle . . .	1250-1300
Lochnaben Castle . . .	1250-1300
Dunfermline Palace . . .	1200-1550

Dundonald Castle . . .	1350-1400
Linlithgow Palace . . .	1425-1620
Edinburgh Castle . . .	1434-1615
Stirling Castle . . .	1450-1600
Falkland Palace . . .	1450-1550
Holyrood Palace . . .	1498-1680

I can but mention other ancient royal palaces which practically exist only as names in history—*e.g.* :

SCONE, which is about two miles from Perth, appears to have been the chief seat of the Pictish kingdom so early at least as 728, and it retained its importance after that kingdom was annexed by Kenneth MacAlpin, the king of the Scots. The kings continued to be crowned there until Edward I., in 1296, carried off the coronation stone to Westminster, where it is still used for coronations. A modern Gothic mansion now stands in the place of the ancient royal palace.

DUNOON CASTLE, on the Clyde, taken by Edward Balliol in 1333; CARRICK (or TUENBERRY) CASTLE, on the Ayrshire coast, from which the father of King Robert the Bruce received his title, Earl of Carrick, in right of his lady; FORTVRIOT, near Perth, once, it is said, the site of a Pictish palace, where Kenneth MacAlpin died in 860, and where Malcolm Canmore is believed to have resided, many royal charters bearing date from it; ABERNETHY, about ten miles from Forteviot, a seat of Pictish royalty, where also Malcolm Canmore sometimes resided. In almost all these instances nothing now remains to enable us to judge of their design.

Although the list of Scottish royal palaces is a formidable one, the larger number need occupy our attention but for a very short time, seeing that our purpose of study this evening is not historical, but architectural. Many of these ancient residences of royalty have descended to us in so ruinous a condition that, however strongly they may appeal to the imagination of the Scottish patriot or historian, the more relevant aspect of their design and construction cannot profitably occupy prolonged attention here.

Certain reflections, common almost to all these ruined palaces, deserve passing remark: First, it is, I think, worthy of notice that the sites for these buildings appear to have been chosen with considerable discrimination, both strategically, where this was necessary, and with regard to the picturesque. It also seems to me that the character of the design of these old Scottish castles must have been thought out much more carefully, and even artistically, than is usually supposed: how else can we account for the success with which buildings having little or no architectural embellishment so harmonise with the natural features of the surrounding country that, instead of being a blot on some glorious mountain scene, the general impression frequently is wholly a delight? I confess it is to me always refreshing to view these Scottish castles in the rugged grandeur of their mountain setting, in comparison even with the most approved modern work, with its spirit of restlessness, seeming too often to appeal almost rudely for approval by its overweight of ornament.

The suitability of the material employed in these old castles still bears testimony, even in decay, to the artistic ability of their designers. This applies, I think, both to the material itself and to the way in which it was employed. Possibly there may not have been much choice of material for building, but where there was a choice the stone used seems to have been the most suitable to give harmony of colour in the general landscape. What dignity some of these old stone castles had: their grey stone walls rising straight and high from their rocky bed like a reflection of the mountain crag, and with their stone-slatted roofs sloping in unbroken colour like the strong sides of the hills around. The modern restorer of such buildings through lack of artistic insight has sometimes spoilt the harmony of a whole mountain landscape, as, for instance, by re-roofing this type of castle with blue slates. The boldness of the masonry of these buildings is almost always in perfect keeping with the spirit of the design, just as the general design is in perfect keeping with the spirit of the landscape around.

It is impossible in this short Paper to deal systematically with the development of design in these Scottish buildings. It seems clear, however, that the earlier castles with which we

are to deal were generally of the type of the Norman keep, somewhat similar to those of France and England. Unfortunately, Scottish buildings of the earlier period have suffered even worse than those of England through desperate feuds or during the wars of more serious import. We have therefore practically no remains, even in ruins, of residential buildings of the character under consideration earlier than the thirteenth century.

It is interesting to note that as the Scottish throne became more secure the royal palaces developed from the simpler type of the keep to the more extensive and elegant type of palace, as represented by Stirling, Linlithgow, Holyrood, and Falkland.

The extent of the field to be traversed renders it absolutely impossible that a detailed description of the buildings should be given, or that architectural details should be minutely and critically examined. All that can be done is to bring before you a general survey of the subject. In order that the historical references may be more readily followed I append two tabulated lists with dates:—I. A list of the reigns of the Scottish kings from A.D. 1005.\* II. A list of the Master Masons to the Crown of Scotland.†

#### REIGNS OF THE SCOTTISH KINGS.

Malcolm II. . . . .	1005-1034	Margaret, "The Maid of Norway" . . . . .	1285-6-1290
Duncan I., "The Gracious" . . . . .	1034-1040	The First Interregnum . . . . .	1290-1292
Macbeth . . . . .	1040-1057	John (Baliol) . . . . .	1292-1296
Lulach "The Simple" . . . . .	1057-1057-8	The Second Interregnum . . . . .	1296-1306
Malcolm III., "Caenmore" . . . . .	1057-8-1093	Robert I. (Bruce) . . . . .	1306-1329
Donald Bane (first reign) . . . . .	1093-1094	David II. (Bruce) . . . . .	1329-1370-1
Duncan II. . . . .	1094	Robert II. (Stewart) . . . . .	1370-1-1390
Donald Bane (second reign) . . . . .	1094-1097	Robert III. (Stewart) . . . . .	1390-1406
Edgar . . . . .	1097-1106-7	James I. (Stewart) . . . . .	1406-1430-7
Alexander I., "The Fierce" . . . . .	1106-7-1124	James II. (Stewart) . . . . .	1436-7-1460
David I., "The Saint" . . . . .	1124-1153	James III. (Stewart) . . . . .	1460-1488
Malcolm IV., "The Maiden" . . . . .	1153-1165	James IV. (Stewart) . . . . .	1488-1513
William "The Lion" . . . . .	1165-1214	James V. (Stewart) . . . . .	1513-1542
Alexander II. . . . .	1214-1249	Mary (Stewart) . . . . .	1542-1567
Alexander III. . . . .	1249-1285-6	James VI. (Stewart) . . . . .	1567-1625

#### A LIST OF MASTER MASONS OF THE CROWN OF SCOTLAND APPOINTED UNDER THE PRIVY SEAL.

1. Grant by King James V. to John Brownhill of the office of Master Mason for life. Given at Stirling, 16th January 1532.
2. Grant by King James V. to Thomas Franche of the office of Master Mason for life. Given at Kelso, 30th April 1535.
3. Grant by King James V. to Megin Martyn, Frenchman, of the office of Master Mason, in the Castle of Dunbar. Given at Orleans, 1st December 1536.
4. Grant by King James V. to Nicolas Roy, Frenchman, of the office of Master Mason. Given at Falkland, 22nd April 1539.
5. Grant to John Roytell, Frenchman, of the office of Principal Master Mason for life. Given at Stirling, 10th March 1557.
6. Grant by King James VI. to William Wallace of the office of Principal Master Mason for life. Given at Edinburgh, 18th April 1617.
7. Grant by King Charles I. to John Mylne, elder, of the office of Principal Master Mason for life. Given at Holyrood House, 17th December 1631.
8. Grant by King Charles I. to John Mylne, younger, of the office of Principal Master Mason for life. Given at Edinburgh, 1st February 1636.

\* From *The Scottish Kings*, by Sir Archibald H. Dunbar.

† From *The Master Masons to the Crown of Scotland*, by R. S. Mylne.

9. Grant by King Charles II. to Robert Mylne of the office of Principal Master Mason for life. Given at Whitehall, 28th February 1668.

10. Grant by King George I. to Gilbert Smith of the office of Master Mason during pleasure only. Given at St. James's, 19th January 1715.

11. Grant by George, Prince Regent, to James Smith of the office of Master Mason during pleasure only. Given at Carlton House, 14th April 1819.

#### ROXBURGH.

The ruins of Roxburgh Castle are too far gone for any view to be of any general architectural interest, but it is certain that it was a royal castle in the twelfth century. Stirling, Edinburgh, Berwick, Jedburgh, and Roxburgh were the five chief fortresses of Scotland, and were in 1174 pledged to England for the payment of the ransom of William the Lion. The Castle was taken from the English by James II. in 1460 and reduced to ruins, but was rebuilt as a garrison by the Protector Somerset in 1547. When it was allowed to crumble to ruins is not known.

#### TRAQUAIR HOUSE.

Traquair House is situated in Peeblesshire, about a mile from Innerleithen, near the junction of the small stream called the Quair with the Tweed. King David I., Malcolm the Maiden, William the Lion, Alexander II., and Alexander III. all date charters from this house. William the Lion suffered a tedious illness here in 1203, and held his Court there in 1209. Edward I. was here in 1304, and Edward II. in 1310. The building is of three periods. The oldest part is at the north-east corner of the Quadrangle. In the second period the building was extended to the south-east. On the centre dormer window is carved the date 1642, which doubtless marks the time of erection. Further additions were made in 1695, comprising the low wings, terraces, and grand entrance gateway. There is a quaint old-world picturesqueness about this building which is very charming, and its owners have up to this time most carefully avoided any interference with its ancient form and even its furnishings. This is the house described by Sir Walter Scott in "Waverley" as the Mansion House of Bradwardine, and here are the famous "Bear" Gates.

#### ROTHESAY CASTLE.

Rothesay Castle, in the island of Bute, is one of the most interesting of the early royal castles. It is said to have been erected in the period of the Norse invasions, and to have been defended in 1228 by Alexander III. against Olave, King of Man, who, supported by the King of Norway with a fleet of eighty ships, came and besieged it. It was taken and retaken, and during the struggle between Baliol and Robert Bruce was for a time occupied by the English, but in 1311 the latter succeeded in taking it. This castle was a favourite residence of Robert II. and Robert III. in the fourteenth century. In 1398 David, son of King Robert II., was created Duke of Rothesay, a title still retained by the Prince of Wales. On the death of Robert III. in 1407 the castle was committed to the family of Bute, the head of that family being formally constituted hereditary Governor and Constable in 1498, which office the present Marquis of Bute still holds.

Architecturally, no less than historically, this castle is interesting, being a good example, though in ruins, of the planning of a thirteenth-century fortress. Though circular in form, the great screen wall is seen in its simplest form, defended by four round towers; but the moat takes approximately the more usual square form. The diameter of the courtyard is 142 feet, the walls being from 8 to 10 feet thick. The chapel remains are of rubble stone, without architectural features. They indicate early erection. The outer building at the

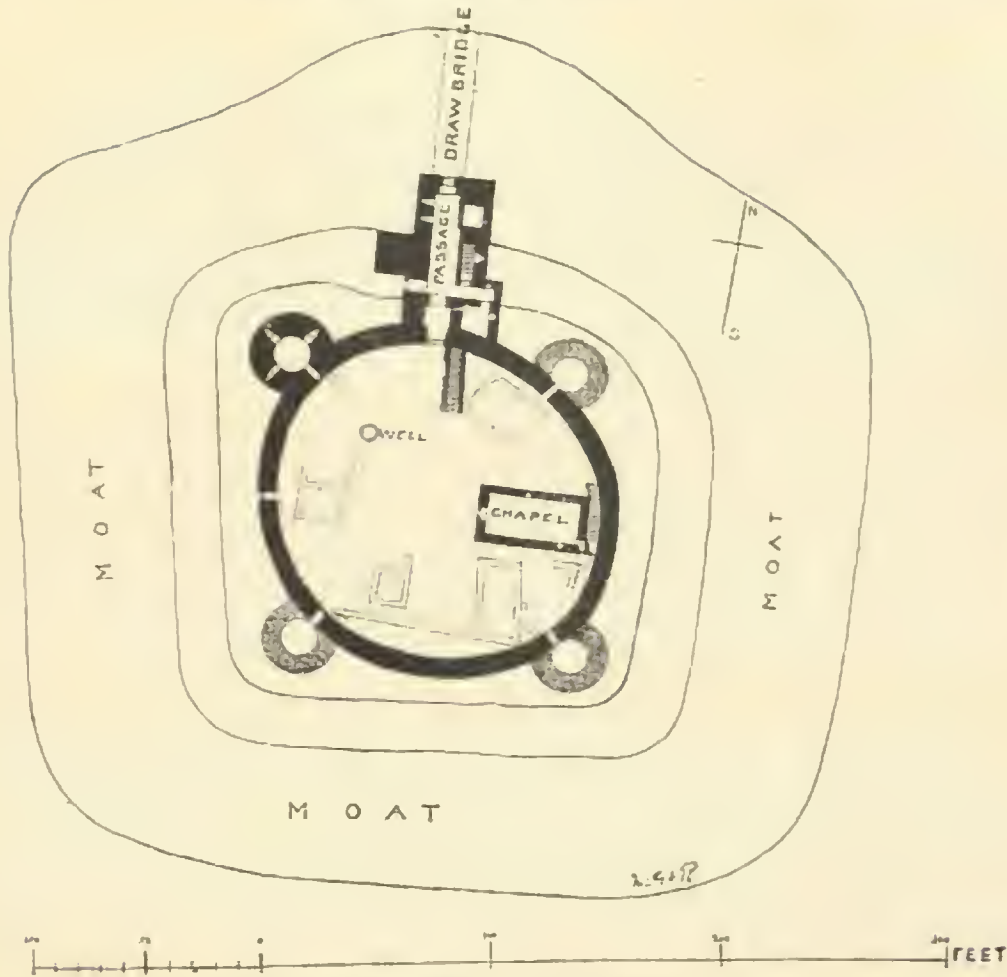


FIG. 2.—ROTHERHAM CASTLE: GENERAL PLAN, SHOWING MOAT ETC.

entrance is evidently of later date, and was probably the work of Robert II. or III., built to provide a residence similar to their other royal castles, such as Dundonald.

#### KILDRUMMIE.

Kildrummie Castle stands on an eminence near the river Don, about thirty-six miles north-west of Aberdeen. The situation, as will be seen from the views, is delightful, but the building has long been in ruins. It is doubtless one of the thirteenth century castles, and a very interesting example of an early fortress. David, grandson of David I., owned this castle; by his daughter it descended to the family of Bruce, and from them, with the sister of King Robert I., to the family of Mar. It was besieged by Edward I. in 1306, and yielded in consequence, it is said, of an accidental fire within. The castle shows signs of a restoration by the English about this date. The earliest part of the building is most probably the great tower at the north-west corner, which is 53 feet in diameter, with walls 10 to 12 feet thick. Little is now left of this ancient tower but the foundations. It contains a draw-well. The great hall can be traced, and was 73 feet by 41 feet. The chapel was larger than usual, being 35 feet by 20 feet. The eastern wall remains, with its three lancet windows.

## DUNSTAFFNAGE CASTLE.

The site of this castle is a jutting rock, near the point of a low-lying peninsula at the seaward end of Loch Etive in Argyllshire. The Castle walls form an irregular quadrilateral figure, measuring about 137 feet on the north side and about 112 feet on the west. The north-east and north-west angles have round towers, and the south-east and south-west angles are each treated differently, so that the mass is well broken. The great screen or curtain wall is 9 to 11 feet thick and about 60 feet high outside, the parapet being about 25 feet above the courtyard level. There is little to indicate the original arrangement of the interior, but a large fireplace in the north wall probably indicates the position of the Great Hall. Much of the dressed stonework of the interior has been stripped, probably for house building, and so decay has been hastened.

The date of the building of the original castle is thought to be about 1250. The later building at the entrance probably dates from the sixteenth or seventeenth century, and that against the north wall from the eighteenth century. Under the pediment of the door of the latter are the letters Æ-C. and L.C., and the date 1725. The early pointed lancet windows, with peculiarly wide splays, are similar to those of the neighbouring chapel, which is in the fully developed early pointed style that prevailed in Scotland from about the middle of the thirteenth century till its close. There is a resemblance between the general design of this castle and the walls and towers of St. André at Villeneuve, built about 1300. The latter has the same rounded angle and tower as seen from the south-west, while the details of the walls are similar.

An earlier structure than that of which any part now remains is believed to have existed at Dunstaffnage, tradition holding that it was the seat of the Pictish and Scottish kings before the removal of the monarchy to Scone. Certain it is that the site was chosen with judgment, as it commands the entrance to three of Scotland's great national highways—the outlet seaward by the Sound of Mull, that northward by Loch Linnhe and the Great Glen, and that eastward by the shores of Loch Etive and the Pass of Brander.

Kenneth II. is said to have transferred, in A.D. 843, the seat of government from Dunstaffnage to the Palace of Forteviot in Perthshire. The same king is believed to have removed the famous "Stone of Destiny" from Dunstaffnage to Scone. Later and better-authenticated history tells us that after 1265, when the Western Isles were ceded to Scotland, the MacDougalls of Lorne possessed the castle for some time, but it was taken by King Robert the Bruce in 1308, and he granted a charter, which still exists, to Sir Arthur Campbell, of "the Constabulary of Dunstaffnage and the mannes thereof which Alexander of Argyle had in his hands." The Campbells are still in charge, the present Captain of Dunstaffnage being the nineteenth in succession. David II. was at the castle in 1333, and James I. of Scotland paid it a visit in 1431, when he summoned the chieftains to meet him. Of those who obeyed the royal summons it is said that some he pardoned for misdeemeanours, others he admonished, a few he blessed, and a lot he hanged. In this place Flora MacDonald was for a time imprisoned in 1746, after having assisted in the escape of the Young Pretender, "Bonnie Prince Charlie." The family papers of the hereditary Captain of the Castle furnish many references to royal visits and important assemblies of the Highland chiefs, but time does not permit of further historical notes. It is, however, a matter of interest that a few years ago the dwelling-house at the south-east angle was restored so as to be fit for occupation. His Gracious Majesty our King, the Duke of Argyll, and a few friends contributed the necessary funds.

## LOCHMABEN CASTLE.

This castle is on the south-east of the town of Lochmaben in Dumfriesshire. It is believed to have been built by Robert Bruce, who died there in 1295. He was a competitor for the crown, and grandfather of King Robert the Bruce. As this castle commanded the entrance to the south-west of Scotland, it was the battleground of many contests. Edward I. took it in 1298, and Robert Bruce fled to it from England before commencing his great struggle for the crown of Scotland. Baliol handed over the castle to Edward III., but it was retaken by David II. in 1346. It fell again, however, into Edward's hands after the battle of the Standard, but the English were expelled in 1384. It was a royal castle in 1455 after the attainder of the Douglasses. It was again besieged in 1588, and taken by James VI. from Lord Maxwell, the governorship being bestowed upon the Earl of Annandale.

The building is in form a parallelogram, and measures about 126 feet by 108 feet. The entrance was approached by a moat about 20 feet wide, and the side walls were extended across the moat with arches under which boats could pass to the entrance. The walls are substantial, and were evidently high like other castles of the period. Nothing now remains but a shapeless ruin, even the ashlar stone facing having been stripped off for use in building cottages in the neighbourhood.

## DUNFERMLINE.

As will be seen from the plan, the palace of Dunfermline is situated immediately to the south-west of the abbey, a connection between the two being formed by a tower, which is pierced by an archway, still forming one of the entrances to the town from the south. The oldest part—undoubtedly that at the east end—appears from the stylo of masonry and mouldings to date from the "Transition" period from Norman to Early English, probably the beginning of the thirteenth century. It is thought that the lower part of the walls of the whole south front was probably built in Robert Bruce's time, but the upper part

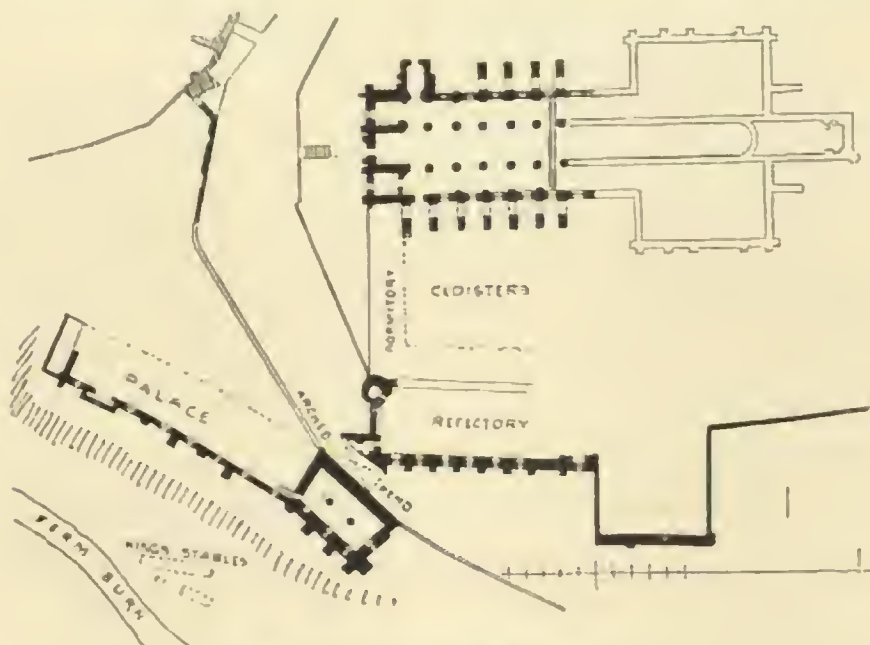


FIG. 3.—DUNFERMLINE PALACE AND ABBEY: PLAN.

with large mullioned windows cannot be earlier than the latter part of the fifteenth century, while some parts are certainly later. Here Malcolm Canmore was married to the Saxon Princess Margaret, who seems to have exercised so beneficent an influence in her time. In the adjoining abbey, which he founded, both were buried. The only remains of Malcolm's time are the lower courses of a round tower, which exist on the other side of the Pittencrieff glen, and are still known as Malcolm's Tower. After Malcolm's time Dunfermline appears to have been continued as a place of royal residence, and we read of King Edward I. of England with his army of invasion destroying the abbey building after passing some months here in the winter of 1303-4, "levelling all the palaces with the soil." The abbey was restored by King Robert Bruce and the palace built. His son and successor, David II., was born here in 1328.

Many references to royal occupation might be quoted from records. James V. brought his bride, Mary of Lorraine, here, and James VI. made this palace a favourite residence; Charles I. was born here in 1600. The palace was allowed to fall into decay after the time of Charles II. At the present time the ancient part of the abbey church and what remains of the abbey and palace buildings are in charge of H.M. Office of Works, and a good deal has been done recently in the way of clearing away rubbish and modern excrescences and restoring the original work with the object of better preservation. In co-operation with the Carnegie Dunfermline Trust, we have just restored a spiral stone stair by which direct communication can again be had between palace and abbey, and unsightly mean buildings used as a smithy against the refectory wall are about to be removed so as to expose original work.

#### DUNDONALD CASTLE.

Dundonald Castle is a good example of a fourteenth-century keep, and was a favourite residence of Robert II. and Robert III., the former having died here in 1390. The original keep is rectangular in plan, measuring 81 feet 8 inches by 40 feet, its original height having been about 70 feet. It is divided in height into two stories of pointed arched compartments. The ground floor was originally divided into three compartments, traces of the division walls being visible. The great hall on the upper floor, the roof of which has almost disappeared, is 60 feet 6 inches long by 25 feet 6 inches wide and about 25 feet high. It was vaulted by a pointed tunnel vault with transverse and diagonal moulded ribs, and having segmental arch wall ribs springing from corbels. The ribs are not constructional, but are applied to the surface of the barrel vault, as found in some Scottish churches of the period, as, for instance, at St. Giles' Church, Edinburgh, and Paisley Abbey.

#### LINLITHGOW PALACE.

It is not surprising that the site of Linlithgow Palace was early selected as a suitable position for a royal residence. David I. had a castle here from 1124 to 1153, and Edward I. of England lived in the castle for a few months of 1301-2. At that time or shortly afterwards he extended the castle which remained for twelve years in English hands, when it was taken in 1313 by Bruce. In 1350 David II. had the castle repaired, but it suffered by fire in 1424, and the building of the new palace commenced in the year 1425 under John of Walton, Master of Works. Between that date and 1451 the work was carried on under Robert Wedale, Robert Livingstone, John Holmes, and John Weir. After the lapse of sixteen years, during which period nothing appears to have been done, the work was resumed in 1467 by Henry Livingstone. The south side was built between 1488 and 1496.



FIG. 4.—LINLITHGOW PALACE: N.E. CORNER OF COURTYARD.

James IV. appears to have resided at Linlithgow a good deal, and James V. was born here in 1512. He considerably altered the buildings, changing the principal entrance from

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FIG. 2.—LINLITHGOW PALACE: GREAT HALL, WITH CHIMNEY-PIECE RESTORED.

the east to the south side, and erecting the outer gateway near the church tower. The fountain in the centre of the courtyard is also believed to have been erected by him. It was probably in its altered condition when Queen Mary of Guise was brought here and said that she "had never seen a more princely palace."

In 1607 the north side of the palace, then in a ruinous state, fell in, and it appears to have been left thus for ten years when in 1617 James VI. gave orders for rebuilding this side. The date 1620 carved on the central staircase seems to indicate that the work was then in progress. William Wallace (who is believed to have designed Heriot's Hospital, Edinburgh) was probably the architect of this part.

After the battle of Dunbar, in 1650, Cromwell's troops held the palace for nine years. From that time a part of the building was occasionally occupied by successive earls of Linlithgow as hereditary keepers, the western side being used for burgh and county business. The palace was last occupied in 1746, when a party of Royalist troops, lodged here after the battle of Falkirk, set fire to the building, which was left a total wreck, as it has since continued.

The principal rooms are on the first floor: on the eastern side the great hall 100 feet by 30 feet, on the southern side the chapel and ante-room, on the western side the dining and drawing-rooms, and on the northern side the banqueting hall and smaller rooms. The royal bedchamber is at the north-west corner, with oratory adjoining. Queen Mary is said to have been born in the drawing-room on the 8th December 1542. Although the exterior of the palace is massive and dignified, interesting detail is introduced with good taste sparingly, as

at the eastern entrance and the oratory oriel on the north front. The elevations to the courtyard are all quite different and of interesting design. Some fine examples of interior stonework still remain, as the splendid fireplace of the great hall, recently restored, and the chapel, with its lofty windows and numerous niches.

#### EDINBURGH CASTLE.

Although the Castle of Edinburgh is known to have existed as a fortress before the time of Edwin, King of Northumbria, who is said to have rebuilt the castle in the year 626, the first notice of the castle as a royal habitation occurs in 1107 under Alexander I., and it is for the first time designated in history as a royal residence in the reign of David I., who succeeded to the throne in 1124. We know, however, that it was occupied by Malcolm Canmore, and that the sainted Queen Margaret died there in 1093. The little Norman chapel which bears her name still exists—the oldest building of the castle group, and one of the oldest in Scotland. The other buildings of that date which would then form the royal



FIG. 6.—EDINBURGH CASTLE. VIEW OF PALACE BLOCK FROM THE EAST.



FIG. 7.—EDINBURGH CASTLE: VIEW OF PALACE BUILDINGS FROM CROWN SQUARE.



FIG. 8.—EDINBURGH CASTLE: INTERIOR OF GREAT HALL OF PALACE AS RESTORED.

residence would doubtless be of simple design. These have long since disappeared, and no trace of them now remains. The castle had a chequered history in the twelfth and thirteenth centuries. First nuns and then monks were in residence, the former being "put forth" that the latter might be protected there during the building of Holyrood Abbey, which they occupied in 1176. From 1174 to 1186 the castle was in English hands. Under William the Lion and Alexander II. the castle grew in importance, and during the reign of Alexander III. it became the principal royal residence in Scotland, as well as the depository of national records and the regalia. In 1291 Edward I. besieged and took the castle, which was several times taken and retaken during the wars of independence. Edward III. in 1336 commenced a refortification of the castle, and in 1344 it formed one of a chain of fortresses intended to hold the south of Scotland in subjection. On the return of David II. from his captivity he made the castle his chief abode, and in 1368 built the great tower called "David's Tower." It was 60 feet in height and contained a lords' hall and a new court kitchen. It occupied a position near the present Half-moon Battery, but was demolished at the siege of 1573. The lower part of the Gate Tower, now called the Argyll Tower, is also believed to have been the work of David II., the thickness of the walls indicating its great age. The east and west walls are 10 feet 3 inches and 7 feet 6 inches thick respectively, while the north wall is 17 feet thick at the base. The lower masonry still existing is believed to be part of the original work, but the eastern front was refaced after the siege of 1573, while the upper part as now seen is a restoration by Mr. Hippolyte J. Blanc, carried out about twenty years ago through the munificence of the late Mr. Thomas Nelson.

The great hall, which forms the south side of the palace square, was built in 1434, a previous hall having evidently existed, as indicated by the vaulting underneath, which extends inwards considerably beyond the present north wall of the hall. The south-east corner building of the Palace square is thought to have been built about the same period, and is connected internally with the Great Hall. In one of the ground-floor rooms in this part James VI. of Scotland was born (1566). The last great occasion when the hall was occupied was in 1648, when Cromwell was entertained by the Earl of Leven. This fine apartment was mutilated and subdivided, and served the purpose of a military hospital for nearly 200 years. Through the generosity of the late Mr. Thos. Nelson, the work of restoration was carried out by Mr. Blanc in 1892. The north end of the east wing was erected in 1615 under William Wallace, who probably designed Heriot's Hospital and the north side of Linlithgow Palace. The style of work is certainly similar. The west wing was probably added about the beginning of the eighteenth century, and is without architectural pretensions. The north wing is nineteenth-century work carried out by R. W. Billings.

#### STIRLING CASTLE.

It has been said that King David I. found Scotland built of wattles, and left her framed in granite castles. He it was who is believed to have built the first feudal castle at Stirling, probably a single square tower or keep, as shown on the ancient seal of the burgh. Before this, however, there was evidently a royal residence, as Alexander I. died here in 1124. To the royal Stewarts, Stirling Castle was a specially favourite home. James I. of Scotland regarded the place as the Windsor of Scotland, and his son James II. was born within its walls, as was also James III. It is James V., however, who is so intimately associated with the castle in history, and of whom so many stories are told locally as to his assumed character as the "gaberlunzie" man. His initials and those of his second wife, Mary of Guise, are to be seen repeatedly upon the walls of the palace. The hapless Queen Mary was conveyed here from

Linlithgow when seven months old and crowned with great ceremony on the 9th of September, 1543. James VI., too, was brought here from Edinburgh when he too was a mere infant, and the castle was his home until he assumed the government of the country. When James VI. of Scotland became James I. of England, and entered upon his inheritance of the English throne in 1603, Stirling Castle ceased to be a permanent royal residence.

The general plan of the castle to be shown distinguishes the ancient buildings from the modern military buildings, and it will be seen how thoughtlessly the merely utilitarian War Office engineer has crowded the space without the least regard to amenity, historical sympathy, or the picturesque. Surely it is time that the Crown should have power and means to preserve all such national historic treasures in stone from wanton destruction and neglect, and to prevent ruin by the hand of one of its own departments.

As to the buildings, the Parliament Hall is believed to be the earliest, except perhaps the small plain building known as the Mint, and was probably designed by the royal favourite but ill-fated Robert Cochrane, Master of the King's Works to James III. He was hanged in 1481 on the Bridge of Lander by the jealous Scots nobles. Its refined Gothic detail is in marked contrast to the later work of James V.'s time at the palace. From old prints showing what this building was like before it was mutilated so mercilessly in order to provide barrack room, it can be seen that the proportions were refined and the detail artistic. The once noble hall, 125 feet long, has been divided into several floors, the original open timber roof has disappeared, and the commonest kind of barrack work partitions and staircases inserted.

When the poet Robert Burns first visited Stirling the desecration of this building so angered him that he scratched on one of the window panes of a room in the hotel some very severe lines, in which he says :

Here Stuarts once in glory reigned,  
And laws for Scotland's weal ordained ;  
But now unroofed their palace stands,  
Their sceptre swayed by other hands.

Those responsible he refers to as "an idiot race to honour lost."

The palace building is particularly interesting as one of the earliest examples of the Renaissance in Scotland. An entry in the accounts of the Lord Treasurer of Scotland, under the date 8th June 1496, records a payment to Walter Merlyonne Mason "for bigging [building] the King's Hous." The work was, however, long in progress, for it is known that James V. was building here in 1540, and the date 1557 is upon some of the dormer windows. The detail is a mixture of late Gothic and French Classical Renaissance. The palace is planned in the form of a square with a central courtyard. The north-east and south fronts are all in the same style, with arched and cusped recesses and square-headed windows alternating. Each recess is decorated with a circular baluster-shaped column, forming a pedestal for a vigorously carved figure. The Royal Chapel was erected by James VI. in 1594, and the more

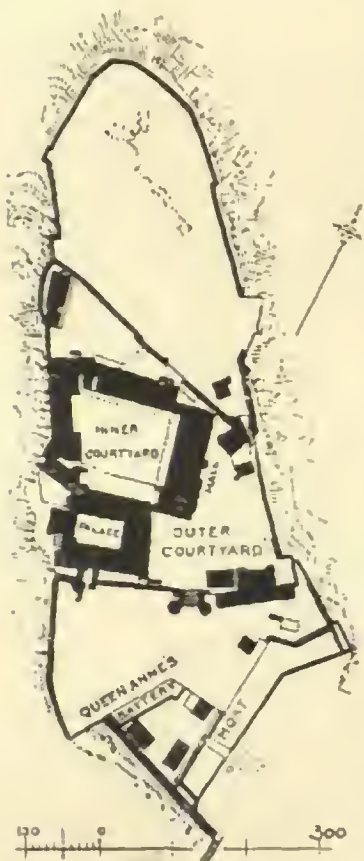


FIG. D.—STIRLING CASTLE: GENERAL PLAN.

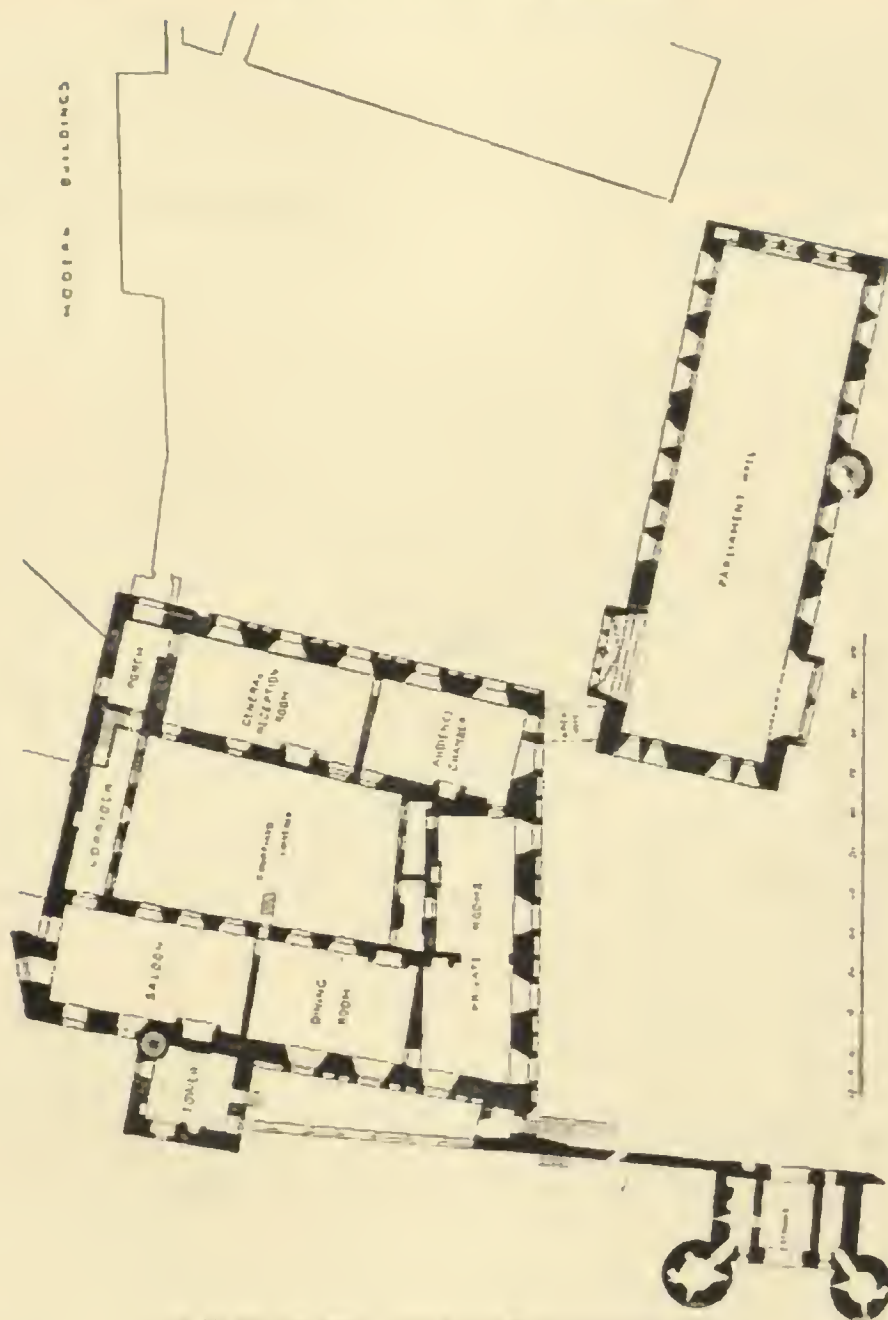


FIG. 10.—STIRLING CASTLE: PLAN OF PALACE AND PARLIAMENT HALL.

correct detail of the Classical Renaissance is not of much interest. The interior, like that of the Parliament Hall, has been entirely destroyed to make accommodation for soldiers.

#### FALKLAND.

Although a Falkland Palace is known in history so far back as 1371, it is not the same building a part of which we now see. It was in the old palace that David, Duke of Rothesay,

was imprisoned by his uncle, Duke of Albany, in 1402, of which imprisonment romantic stories are told. James III. and James IV. are both supposed to have built here, and from the style of the south front the main building would appear to belong to the latter part of the fifteenth or the early part of the sixteenth century. The interior of the building fronting the courtyard was added by James V. It was here he died in 1542, after the defeat at Solway Moss, and six days after the birth of his daughter, Mary, Queen of Scots, at Linlithgow. Both Mary of Guise and Queen Mary often retired to Falkland as a favourite resort. James VI. likewise added considerably to the building.

An entry in the Acts of the Scottish Parliament, dated 27th July 1525, shows that the then existing palace had fallen into a ruinous state; and about 1537 James V. set about extensive additions, probably erecting the buildings on the east and north sides of the courtyard. The north wing has entirely disappeared, and of that on the east only bare walls remain, both having been destroyed by fire. The late Marquis of Bute spent much time and money in order to rescue from decay what remained of the noble pile. The interior has been dealt with very thoroughly by Mr. Kinross and Mr. Tarbolton, the old floors and finishings of oak with much elaborate carving having been restored or renewed. The royal pew and original pulpit, with the fine oak screen and ladies' gallery above, have been restored. The present owner, Lord Ninian Crichton-Stuart, has quite recently decorated the walls of the chapel with very fine Flemish tapestry from an old house in Maarssen, Holland, built in 1400.

The architectural details are very effective indeed. The introduction of buttresses on the south front is very unusual in Scottish work, and looks like an attempt of a native architect to introduce novel features. The towers are somewhat similar to those of Holyrood Palace. The detail of the Renaissance work on the courtyard eastern wing is very fine, and bears a strong resemblance, though more refined, to the work of the James V. Palace at Stirling Castle. On the plinth of each column occur alternately the initials of James V. and Mary of Guise; this part of the palace was therefore added between 1539, when James brought Mary home, and 1542, the date of his death. There is very clear evidence of French influence in the Renaissance detail.

### HOLYROOD PALACE.

Those who are not familiar with the history of Holyrood Abbey and Palace will better understand what follows from a key plan, distinguishing the respective buildings which have been erected at different and widely separated times. Upon this plan the oldest part, i.e. what now remains of the abbey, is shown in black. The Great Tower of the original palace, built about 1500, is hatched in line, and the later palace, built by Charles II., is shown in half-tone.

#### I.—THE ABBEY.

The founding of the abbey in 1128 is quite well authenticated, and the original charter of King David I. can still be seen at Edinburgh. I am, however, dealing more particularly with royal palaces, and can only say in passing that a careful study of the Chapel Royal of Holyrood House—all that remains of the abbey buildings—will well repay the architectural student. A fascinating variety of detail can still be clearly distinguished, throwing much light upon the chapel's chequered history.

Notice, first, as undoubtedly the earliest, and now the only remaining, fragment of that period, the Late Norman doorway, now built up, at the eastern end of the south aisle, which evidently led to the cloisters. It can only be seen from the exterior, the royal vault having

been built against it on the inside. Then note the interesting transition of style as you look westward at the wall face of the south aisle. The key plan will make it plain to all that what now exists was but the nave of the original church, tower, transepts, and choir having entirely disappeared. It is said that during the course of excavation for the formation of the garden certain remnants of foundations have been observed, and the position of the steps to the high altar is thought to be indicated by benching still showing in the turf; I cannot, however, at present vouch for the accuracy of these indications. What I have shown by dotted lines upon the plan is only conjectural in order to suggest roughly the approximate and probable relation of what exists to that which has disappeared.

That little remnant of Late Norman work at the south-east corner has been mentioned first because earliest, but the nave as a whole was not begun to be built until towards the end of the twelfth century, and then without buttresses. It would appear that the extent of the outward thrust of early groined stone vaulting was not at first fully realised, as both in this church and in other similar cases—as at St. Andrews Cathedral—buttresses were added long after the building had been completed. It was not until the days of Abbot Crawford, some time between 1457 and 1483, that these buttresses were added. Those on the north side, though massive, are embellished with extremely delicate and beautiful work in the canopies of the niches &c., in striking contrast to the more rigorous spirit of the earlier work of two centuries before. Notice, too, the care with which the buttresses on the south side have

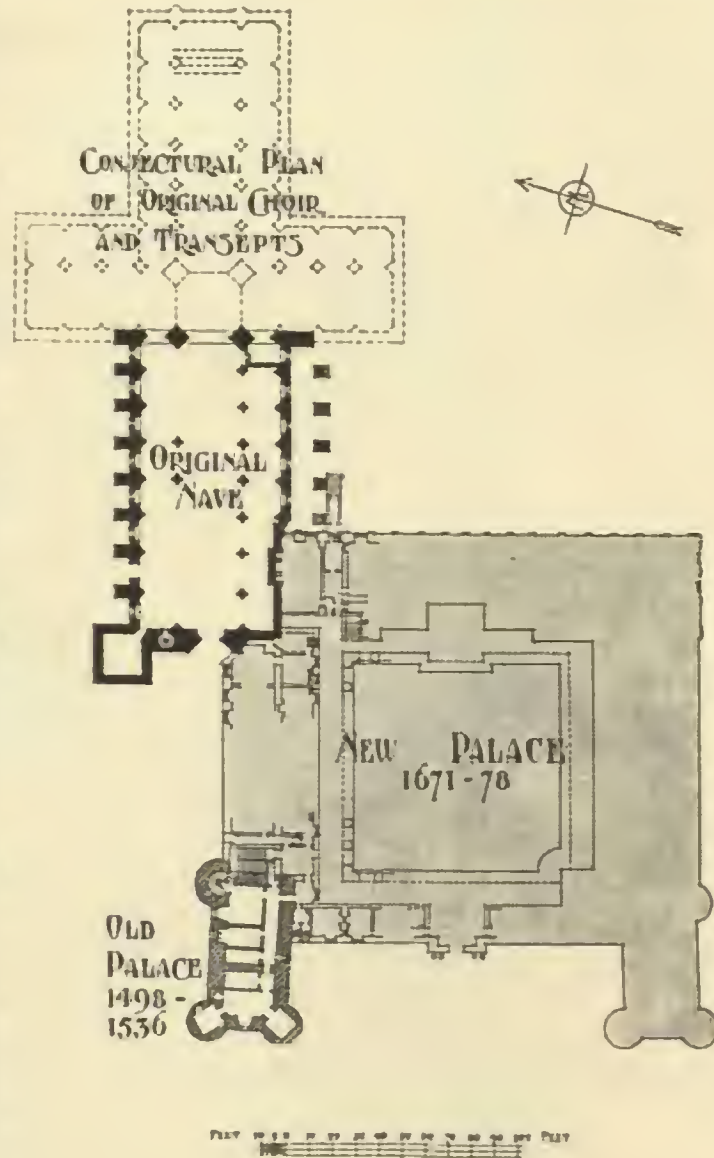


FIG. 11.—HOLYROOD PALACE: KEY PLAN.

been designed so as not to interfere with the cloisters or with the beautiful arcading of the south aisle wall. For three centuries these noble buttresses safely withstood the constant thrust of the great stone vault of the nave; but when at last the catastrophe came, and the vault collapsed, there was no longer a balance of forces, and so the buttresses which supported so long the outward thrust of the nave vault exerted an inward thrust, thus more disastrously

involving in the common ruin both north and south clerestories with the triforium and nave arcade on the north side.

Much more might be said about the detail of the beautiful ruin. I will only add that the filling-in of the eastern arches of the nave and aisles dates from about the middle of the



FIG. 17.—HOLYROOD PALACE, CHAPEL ROYAL: VIEW OF SOUTH WALL OF NAVE, WITH FLYING BUTTRESS.

sixteenth century, but the large window was blown in in 1795 and restored in 1816. We might well linger over the magnificent west doorway, one of the very finest of the kind in existence, but I have already exceeded the limit I had set myself for dealing with this part of our subject.



FIG. 12.—HOLYROOD PALACE, QUEEN MARY'S AUDIENCE CHAMBER: REMNANT OF ANCIENT FRIeze DECORATION IN TEMPERA.

## II.—THE ANCIENT PALACE.

It is well authenticated that James IV. built the royal palace—probably to receive his bride, Margaret Tudor, as the marriage actually took place there on the 8th August 1503. The accounts of the Lord High Treasurer for 1502 contain entries showing the work of building in full progress, and it is believed that the work was begun in 1498. James V. certainly built also at Holyrood, but it is uncertain which is his work.

In the interior of the ancient tower we have been recently trying to remove what was undoubtedly comparatively modern and misleading, and to restore the rooms to what they were originally so far as that is possible. In Queen Mary's audience chamber the partition, which until recently divided this fine room into two parts, has been removed, and you now see the room of the size it was in Queen Mary's time with its original ceiling. A recess on the east side of the room has been opened out, and is thought to have been a private oratory. The ceiling of this recess is worth noticing with the white cross of St. Andrew on an azure field at the intersection of the moulded panels, all richly painted and gilt. The private stair which evidently led from this apartment up to the gaol above has been opened to view, and a most interesting piece of wall frieze decoration in tempera over the fireplace of the same room has recently been discovered and exposed. In all these historical rooms the original stone surfaces of doorway and fireplace mouldings have been cleaned of paint and the woodwork treated so as to harmonise with the fine tapestries which have been cleaned and restored. The ancient furniture also is being gradually restored so far as that is possible.

## III.—PALACE OF CHARLES II.

I have only now time to recall the bare historic facts that the incursions of the English were responsible for the partial destruction of the palace in 1544 and 1547, and that in 1650 the palace was again burnt while occupied by the troops of the Commonwealth. Cromwell appears to have rebuilt or added to the west front in 1658, but that part was demolished before the present palace was erected for Charles II. from the designs of Sir William Bruce, the work being carried out by Robert Mylne, master mason. The building was commenced in

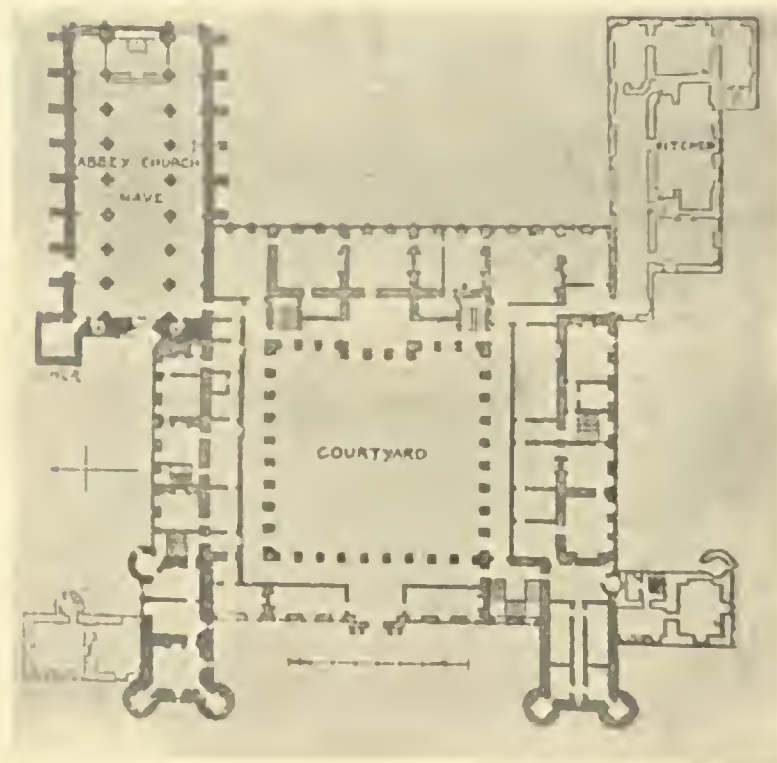
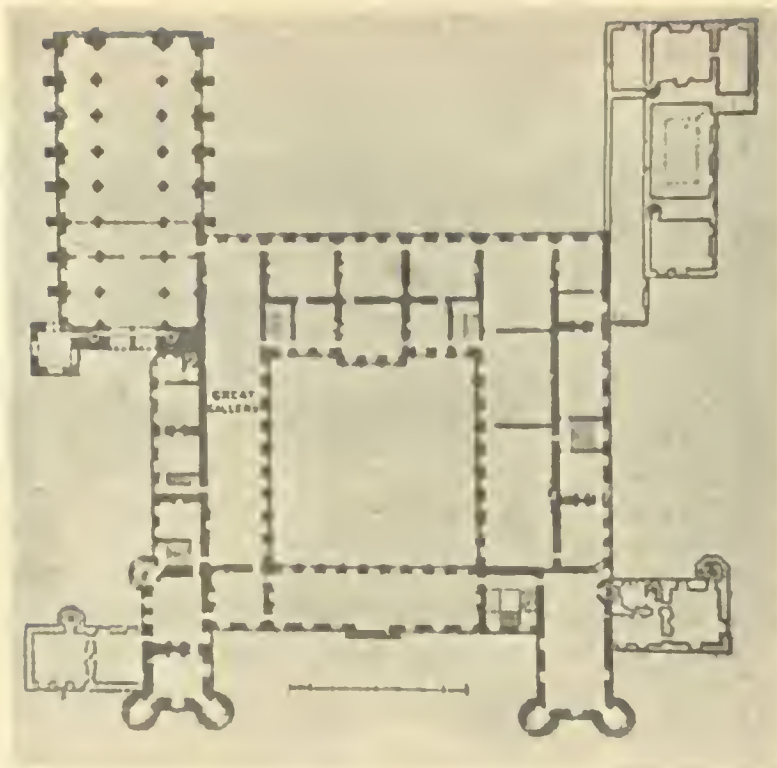


FIG. 14.—NEW PALACE, HOLYROOD: GROUND AND FIRST FLOOR PLANS.

1671, as the incised lettering on the stone pier at the north-west angle of the great court shows, *i.e.*:—

“FVN DE RO MYLNE M M 1 JUL 1671.”  
(Founded by Robert Mylne, Master Mason, 1st July 1671.)

Unfortunately the erection of the palace as we now see it involved the demolition, not only of the older palace and monastic buildings, but the south-west tower of the abbey church. Only the great tower opposite the main approach by the Canongate was spared, and this feature really governed the design of the principal front.

The new palace was built on a very much more extensive scale than that which had previously occupied the site. It is rectangular in plan, measuring about 200 feet by 180 feet, with a central quadrangle about 90 feet square. In design it may be called British Palladian of that period, treated with sufficient freedom in detail to give a certain interest which is refreshing. The state apartments are on the first floor, the Picture Gallery, which is 150 feet long, occupying the north side and connecting the ancient tower with the newer suite of principal rooms. There are some very fine plaster ceilings [figs. 15, 16] in the state rooms and also some beautiful carved oak doorways and mantelpieces. The tapestries also are exceedingly fine.

The measured drawings of these ceilings are shown\* by the courtesy of the Board of Trustees for the National Galleries of Scotland, in whose charge they are. They were prepared by the senior students of the Applied School of Art as part of the scheme of the Scottish National Art Survey, a work which cannot be too highly commended.

It is of great interest to know that these beautiful plaster ceilings are the work of two Englishmen named John Halbert (or Houlbert) and George Dunserfield (or Dunsterfield), and that the oak carving is the work of one Jan Vansantvoort—evidently a Dutchman. The items given below have been kindly extracted for me by Dr. Hay-Fleming from the original account-book of Sir William Bruce, now in H.M. Register House, Edinburgh. This account book was discovered in 1850 by Mr. Robert W. Mylne in a charter chest at Kinross House, formerly the seat of Sir William Bruce of Balcaskie.

*“Accompt of moneyes payed out by Sir Wm. Bruce, Gennerall Survayer to his Majesties Workes upon the Reparation of his Majesties Pallace of Hallyrudehouse from and after the 19th Jany. 1671.”*

1674. Feb. 19.—“Item payed to John Halbert and George Dunserfield English plaisterers 252 *lib.* for plaistering the 3rd room in the 3rd storie of the inner syde of the North quarter of this pallace measuring in all with the corneice 70 yairds at 6*ss.* Ster. the yaird conform to contract as the accompt theirof attested by James Bruco, Allexr. Montgomerie and James Kennewie who werr appoynted to measure the same (with receipt of payment on the foote theirof) beares (No. 26) 252 *lib.*

1675. Decr. 15.—“Item payed to John Houlbert plaisterer 130 *lib.* 6*s.* 10½*d.* sterling money and that for severall sorts of plaistering work wrought by him att Hallyrudehouse since his coming to Scotland to work at the said pallace preceeding the 28 Jnne last either by him or George Dunsterfield his partiner (excepting the first frett ceiling wrought by them in one bed-chamber of the 3rd storie of the North quarter which was formerlie given up in accompt and accordinglie payed) and that in the severall roomes of the said pallace conform to the particullar attested accompt and receipt of payment (No. 403) Inde 1,564 *lib.* 2*s.* 6*d.*

\* These were among the lantern illustrations.—Ed.

1679. *March 11.*—"Item to John Houlbert plaisterer 166 *lib.* 6*ss.* 10*d.* sterling for severall sorts of plaister work wrought by him in and aboute the Pallace of Hallyrudehouse from

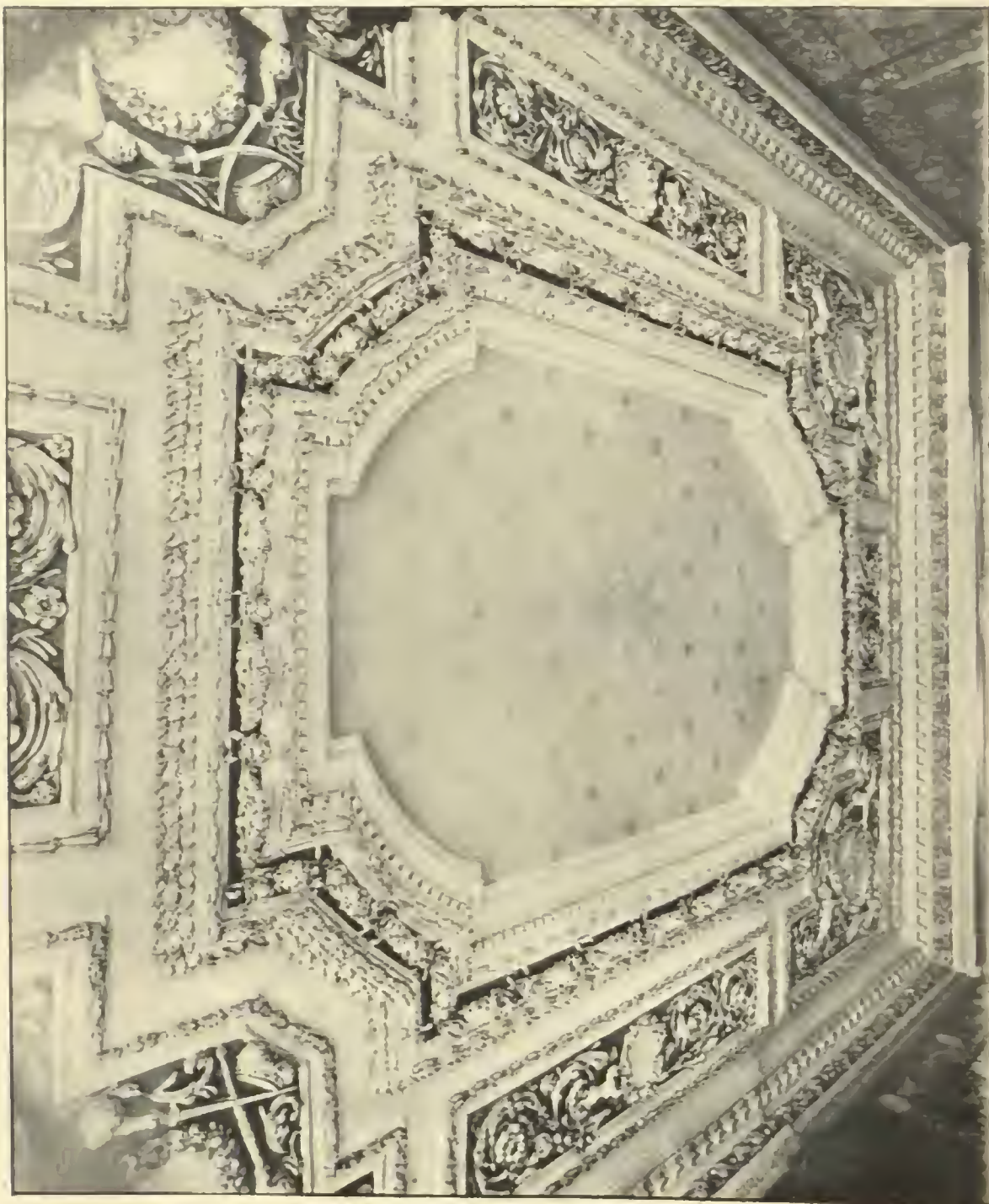


FIG. 15.—HOLYROOD PALACE: CEILING.

and after the 24th August 1676 to the 11th Janry. 1679 conform to particular attested  
account with receipt of payment theiron Inde in Scots money is 1,996 *lib.* 2s.



FIG. 10.—HOLYROOD PALACE: CEILING.

1679. *March 11.*—"Item payed to the said John Houlbert 22 *lib.* 12*ss.* 6*d.* ster. and that for the plaister work of the rooffe and corneishes of the great scaille stair on the South West corner of the said Pallace conform to particullar accompt with receipt of payment theiron Indo 271 *lib.* 10*s.*

1674. *Feb. 7.*—"Item payed to Jacob de Wett Dutch paynter 98 *lib.* 12*s.* for two severall chimney pieces paynted by him and for paynting in marble collour ane chimney conform to particullar accompt and receipt of payment (No. 201) 98 *lib.* 12*s.*

1677. *March 7.*—"Item payed for sex hundereth fyne large wanscott planks readie sawen imported from Rotterdam for lyneing severall of the roomes of the King's owne appartement in the said pallace conform to the accompt theirof sent from Rotterdam by James Gordon being 910 *gldrs.* 9 *sts.* Hollands money drawn by him at 690 *lib.* Scots for each 600 *gldrs.*

	<i>lib.</i>	<i>s.</i>	<i>d.</i>
Extends to . . . . .	1,047	0	0
Item payd for dutie theirof the custome house of Leith as per receipt . . . . .	42	10	0
Item payd for freight theirof as per agriement and receipt . . . . .	120	0	0
Item payd for entrie and sufferance money . . . . .	1	4	0
Item for carrying theirof from the ship to a closs yaird . . . . .	7	4	0
	1,217	18	0

1679. *Feb. 22.*—"Item payed to Jan Vansantvoort carver of timber 34 *lib.* sterling money and that for cutting carving and upputting of several pieces of carved work upon severall of the chimney and doore pieces of his Majesties appartement in the East quarter of the pallace of Hallyrudehouse conform to particullar accompt with receipt of payment theiron . . . 408 *lib.*"

In these accounts when the kind of money is not mentioned it is invariably Scots, which at that date was only equal to a twelfth of money sterling.

In conclusion I cannot but remark that it appears strange to me as a Crown servant that only five of these ancient royal palaces still remain the property of the Crown, and that so many ancient national buildings of historic interest remain in private hands, no statute existing which can prevent total destruction by "improvements," or by neglect. Too often there is a want of knowledge, interest, or means.

I am very conscious that I have not done justice to my subject, but can only plead the extent of the field to be covered and my inability to find adequate time amidst pressing official duties to deal satisfactorily with it.



FIG. 17. -- HOLYROOD PALACE: DETAIL, WEST DOOR, CHAPEL ROYAL.



9, CONDUIT STREET, LONDON, W., 25th January 1908.

## CHRONICLE

### Mr. Oldrieve's Paper and Illustrations.

The reading of Mr. Oldrieve's Paper and the exhibition and description of the numerous and exceedingly interesting collection of illustrative plans and views thrown upon the screen occupied nearly the whole of the Meeting on Monday, it being on the stroke of ten before the last slide was reached. The Award of Prizes and Studentships having still to be made known, and a number of students being in waiting to hear the announcement, the President decided that it was too late to call for a discussion of the Paper, but invited members having any observations to make to commit them to writing and send them for publication in the JOURNAL. The very cordial thanks of the Meeting were voted to Mr. Oldrieve by acclamation on a motion from the Chair. It is hoped in an early number of the JOURNAL to supplement, by the kindness of Mr. Oldrieve, the illustrations given on preceding pages with a sheet or two of details of some of the very beautiful work still existing at Stirling Castle and at others of the buildings dealt with in the Paper.

## THE PRIZES AND STUDENTSHIPS 1908.

### The Council's Award.

The Designs and Drawings submitted for the Institute Prizes and Studentships are now on exhibition in the Gallery of the Alpine Club (entrance in Mill Street, Conduit Street, W.). The Council's Deed of Award, read at the General Meeting of the 20th January, gives particulars of the competitions and the results thereof as follows:—

### THE ROYAL INSTITUTE SILVER MEDALS.

#### (i.) The Essay Medal and Twenty-five Guineas.

Four Essays on "The Function of Colour in Street Architecture" were received for the Silver Medal under the following mottoes:—

- |                  |                 |
|------------------|-----------------|
| 1. "Arbor Vitæ." | 3. "Fiat Lux."  |
| 2. "Bergognone." | 4. "West Wind." |

The Council regret that they are unable to award the Institute Medal, but they have granted a Medal of Merit to the author of the Essay bearing the motto "West Wind" [*Percy Montague Stratton* [A.]], and a Certificate of Hon. Mention to the author of the Essay bearing the motto "Arbor Vitæ" [*Henry H. Hill*, B.A.].

#### (ii.) The Measured Drawings Medal and £10 10s.

Fifteen sets of Drawings were sent in of the various buildings indicated, and under mottoes as follows:—

1. "A.D. 1382": 6 strainers (Gate House, Thornton Abbey).
2. "Cant Wara": 4 strainers (St. Alfege, Greenwich).
3. "Cantii": 6 strainers (Cobham Hall, Kent).
4. "Dan": 4 strainers (Wolvesey Palace, Winchester).
5. "Fairfax": 6 strainers (Banqueting Hall, Whitehall).
6. "Glan Moria": 6 strainers (Temple Bar as re-erected at Theobalds Park).
7. "Lancastrian": 4 strainers (Fountain Court, Hampton Court Palace).
8. "Medieval": 5 strainers (Crosby Hall).
9. "Review": 6 strainers (Wood Hall, Lanarkshire).
10. "St. Andrew": 6 strainers (St. Andrew's, Heckington, Lines).
11. "Sanmicheli": 5 strainers (Gran Guardia Vecchia, Verona).
12. "Sanmicheli": 6 strainers (Porta del Fallo, Verona).
13. "Spes": 6 strainers (St. Leonard's, Hythe).
14. "Tyko": 6 strainers (St. Mary Woolnoth, Lombard Street).
15. "Victrix Fortunæ Sapientia": 3 strainers (Barrington Court, Somerset).

The Council award the Medal and Ten Guineas to the author of the drawings submitted under the motto "Sanmicheli" (No. 11 in the above list) [*Leslie Wilkinson* [A.]], a Certificate of Hon. Mention and Five Guineas to the author of the drawings under motto "Cantii,"\* and a Certificate of Hon. Mention to the author of the drawings under motto "Sanmicheli" (No. 12 in above list) [*Maurice Lyon*].

### THE TRAVELLING STUDENTSHIPS.

#### (i.) The Scane Medallion and £100.

Twenty-eight designs for a Custom House on a Quay were submitted under the following mottoes:—

1. "Basino": 5 strainers.
2. "Dovor": 4 strainers.
3. "Fabulosus": 4 strainers.
4. "Floreat": 6 strainers.
5. "Free Trade": 5 strainers.
6. "H.M.S.": 5 strainers.
7. "Hang! I've forgotten the motto!": 6 strainers.
8. "Hippocampus": 5 strainers.
9. "Hope": 6 strainers.
10. "Hylax": 6 strainers.
11. "Ich Dien": 5 strainers.

\* On the fact being disclosed that the drawings submitted under the motto "Cantii" were the joint production of two individuals, the President remarked that, so far as he was aware, the circumstance was unprecedented. He was not sure that the award would hold good in such circumstances—in any event the matter would have to be considered by the Council.

12. "Levi": 4 strainers.
13. "Lion Rampant": 3 strainers.
14. "Maritime": 6 strainers.
15. "Mecaleep": 7 strainers.
16. "Minerva": 5 strainers.
17. "Neptune": 6 strainers.
18. "No. 13": 4 strainers.
19. "Omega": 4 strainers.
20. "Palladio": 5 strainers.
21. "Red Seal": 6 strainers.
22. "Scarabæus": 6 strainers.
23. "Southern Cross": 6 strainers.
24. "Sphinx": 2 strainers.
25. "Stereo": 3 strainers.
26. "Torus": 5 strainers.
27. "Transire": 8 strainers.
28. "Zoccolo": 6 strainers.

The Council have awarded the Medallion and (subject to the specified conditions) the sum of One Hundred Pounds to the author of the design bearing the motto "Free Trade" [*George Drysdale*], and a Certificate of Hon. Mention and Five Guineas to each of the authors of the Designs submitted under the mottoes "Fabulosus" [*Adrian Berrington*], and "Hang! I've forgotten the Motto!" [*Robert Russell Prentice*].

(ii.) *The Owen Jones Studentship and £100.*

Three applications were received for the Owen Jones Studentship from the following:—

1. Matthew Dawson: 6 strainers.
2. A. E. Martin: 6 strainers.
3. Herman Rosse: 6 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) the sum of One Hundred Pounds to *Mr. A. E. Martin*.

(iii.) *The Pugin Studentship and £40.*

Twelve applications were received for the Pugin Studentship from the following:—

1. Sidney G. Follett: 6 strainers.
2. N. W. Hadwen: 4 strainers.
3. F. Hearne: 6 strainers.
4. A. D. Robinson: 8 strainers.
5. A. Winter Rose: 6 strainers.
6. Walter P. Rylatt: 6 strainers.
7. A. L. Snow: 6 strainers.
8. J. B. Surman: 6 strainers.
9. Howard M. Travers: 6 strainers.
10. George Vey, jun.: 6 strainers.
11. A. Welford: 6 strainers.
12. T. H. Whittaker: 4 strainers.

The Council have awarded the Medal and (subject to the specified conditions) the sum of Forty Pounds to *Mr. Sidney G. Follett*; a Prize of Ten Guineas to *Mr. A. Winter Rose*; and a Certificate of Hon. Mention to *Mr. N. W. Hadwen*.

(iv.) *The Godwin Medal and £65.*

Three applications were received for the Godwin Bursary from the following:—

1. J. A. G. Allan: 6 strainers.
2. Cyril E. Power: 1 portfolio.
3. A. Halcrow Verstage: 6 strainers.

The Council have awarded the Medal and (subject to the specified conditions) the sum of £65 to *Mr. A. Halcrow Verstage* [A.].

(v.) *The Tite Certificate and £30.*

Fourteen Designs for an Open-air Theatre were submitted under the following mottoes:—

1. "Balbus": 4 strainers.
2. "C Minor": 4 strainers.
3. "Dombey": 4 strainers.
4. "Ihis": 4 strainers.
5. "Italia": 4 strainers.
6. "Mafie": 4 strainers.
7. "Palladio": 4 strainers.
8. "Panjandrum": 4 strainers.
9. "Scarlet Scarab": 4 strainers.
10. "Sphinx": 3 strainers.
11. "Tight": 5 strainers.
12. "Veldschoen": 6 strainers.
13. "Volute": 6 strainers.
14. "Yours Truly": 4 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) the sum of Thirty Pounds to the author of the design bearing the motto "Yours Truly" [*George Drysdale*]; a Medal of Merit and Ten Guineas to the author of the design under motto "Balbus" [*Anthony R. Barker*], and Certificates of Hon. Mention to the authors respectively of the designs submitted under the mottoes "Dombey" [*T. L. Vesper*] and "Panjandrum" [*Alan Binning*].

THE ARTHUR CATES PRIZE: FORTY GUINEAS.

One application only has been received for the Arthur Cates Prize—viz. from *Bryan Watson* [A.] (6 strainers). The Council have awarded the prize to *Mr. Watson*.

PRIZES FOR DESIGN AND CONSTRUCTION.

*The Grissell Gold Medal and £10 10s.*

Nine designs for an Elevated Water-Tank in Reinforced Concrete were submitted under the following mottoes:—

1. "A B C": 2 strainers.
2. "Cottambique": 6 strainers.
3. "Delta": 3 strainers.
4. "Gutta": 3 strainers.
5. "Homogeneous": 4 strainers.
6. "Jack Sprat no fat, His wife no lean": 4 strainers.
7. "Stet": 5 strainers.
8. "Water Mark": 4 strainers.
9. "77": 3 strainers.

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "A B C" [*John H. Markham* [A.]].

THE HENRY SAXON SNELL PRIZE: £60.

Six designs for a General Hospital suitable for a Provincial Town were received from the following:—

1. W. Greenwood: 5 strainers.
2. Wm. Laing: 4 strainers.
3. Gavin Lennox: 5 strainers.
4. W. Milburn, jun.: 4 strainers.
5. A. E. Spackman: 4 strainers.
6. W. H. Ward: 4 strainers.

The Council have awarded the Prize of £60 to *Mr. W. Milburn, jun.*

## THE ASHPITEL PRIZE 1907.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize (Books value £10) to Mr. J. C. Procter [A.], of Leeds, who was registered *Probationer* in 1899, *Student* in 1903, and passed the Final Examination in June 1907.

## THE TRAVELLING STUDENTS' WORK.

*Soane Medal 1905*.—The Council have approved the drawings executed by Mr. S. H. Maw [*Soane Medallist 1905*].

*Soane Medal 1906*.—The Council have approved the drawings executed by Mr. W. H. George [*Soane Medallist 1906*].

*Pugin Studentship 1907*.—The Council have approved the work of Mr. A. J. Margetson [*Pugin Student 1907*].

*Owen Jones Studentship 1905*.—The Council have approved the work of Mr. H. Morley [*Owen Jones Student 1905*].

*Owen Jones Studentship 1906*.—The Council have approved the work of Mr. C. Gascoyne [*Owen Jones Student 1906*].

The Deed of Award bears date 20th January 1908, and is signed by Thos. E. Collcutt, *Chairman*; Leonard Stokes, John Slater, William A. Peto, *Members of Council*; Alexander Graham, *Hon. Sec.*; Herbert G. Tayler, *Acting Sec.*

## Dr. Evans's Work and the Cretan Exploration Fund.

The Committee of the Cretan Exploration Fund have sent the following Statement of last year's work:—

The work connected with the excavation of the "Palace of Minos" has now proceeded for seven years, and it is urgent that means should be found to complete the task.

At the beginning of the present year Dr. Evans was under the impression that supplementary explorations on a comparatively small scale would be sufficient to this end, and that by the close of the present season something like finality might be attained as regards at least the palace site of Knossos. Much would no doubt still remain to be done in the immediate neighbourhood. The "Street of the Magazines" would have to be thoroughly opened out; the excavation of the "Little Palace" on the hillside to the west completed; and researches on a large scale carried on in the same direction in quest of the Royal Tombs. But the task as regards the great central building seemed almost at an end.

This sanguine forecast, however, was by no means borne out by the result. The work of the present season proved much more serious than had been anticipated. The process of probing and what may be called "wall-analysis" in the western wing itself resulted in revolutionising large parts of the plan. Many new features of great interest were brought out in this area, such as the circular walled enclosure beneath the pavement of the west court, with its

ceramic contents, the ground plan of the central palace shrine, the supporting bastion of what seems to have been a great entrance flight of steps within the southern propylæum, the complete plan of the southern porch, and the true outer wall line in connection with it, enclosing the remains of a long corridor outside what had hitherto been regarded as the southern boundary line of the palace.

But still more extensive developments were in store. A line of ancient pathway running S.W. from the southern porch was found to lead to a kind of *tête de pont* by the stream below, and another paved line converging on this point led to the discovery of an approach to the west court of the palace running along an outside wall of a hitherto unsuspected quarter of the building. The net result of this discovery is to add some 8,000 square feet to the palace area, the greater part of which needs excavation.

In the meantime an extremely interesting development took place on the southern front. In examining the substructure of the porch on this side the cupola of a great rock-cut chamber came to light. It had been filled with later *débris* and sherds belonging to the earliest palace, and must almost certainly be regarded as a great beehive tomb belonging to a very remote period. The cavity itself continued widening and descending, and a shaft sunk twenty-five feet below the level of the cupola failed to reach the bottom of the chamber. By this time, however, the available resources had been carried to their extreme limit, and the work had to be broken off.

Thus the season's work, which was intended to be of a more or less supplementary nature, broadened out perforce into a somewhat extensive excavation, the result of which is to show that another great campaign must be carried through before we have done with the palace site at Knossos.

The experiences of this year make it possible that some unforeseen extension of the building may take place on the north side. In the eastern quarter not only has a great deal of supplementary exploration to be worked out in detail, but some serious architectural plans must be carried out to secure the preservation of upper stories. If to this we add the excavation of the newly discovered palace quarter to the south-west and the exploration of the great beehive tomb, involving elaborate artificial supports for the southern porch above, it will be seen that the task before us is of a very serious nature. It may safely be said that at least another £3,000 is required to complete the work.

For the last two years the expenses of the whole exploration, including the continuous architectural and artistic work connected with it and the payment of assistants, has entirely fallen on the excavator's shoulders. As to the work of previous years, moreover, there is, so far as the Cretan Fund is concerned, a considerable deficit. In this matter it is unfortunately impossible for an English explorer to rely, like his French, German, and Italian colleagues, on Government grants or large subventions from national academies.

Yet the work already accomplished has supplied a wholly new point of view for the origins of our European civilisation. It has shown for the first time that its earliest phase rivals in antiquity that of Egypt and Babylonia, while the artistic spirit displayed by some of its productions reaches a higher level than that of the ancient East. It has brought to light extrac-

dinary developments of architectural skill and sanitary science at this early date, and in particular has carried back the evidence of writing on Greek soil some two thousand years. Many may consider it a pity that a British undertaking that has already produced such results should be left incomplete for want of public support.

The Committee of the Cretan Exploration Fund confidently appeal both to their old subscribers and to all others who recognise the importance of such discoveries to provide the necessary funds for carrying the work to a conclusion. Subscriptions will be gladly received and acknowledged by the Hon. Treasurer, Mr. George Macmillan, St. Martin's Street, London, W.C., or may be sent direct to the account of the Cretan Exploration Fund, Messrs. Roberts, Lubbock, & Co., Lombard Street, E.C.

The above statement, with the following letter, was before the Council at their meeting last Monday:—

*St. Martin's Street, W.C.: 7th January 1908.*

DEAR MR. GRAHAM,—It is two years since we made any appeal on behalf of this Fund; but as Mr. Evans went out to Knossos last season and spent several hundred pounds out of his own pocket in making further discoveries of great importance, we feel bound to make an effort to send him out again this season with sufficient resources to complete, at any rate, that part of the work. The enclosed statement [*see above*] gives particulars as to these recent discoveries. The Royal Institute of British Architects has more than once been good enough to make a grant to this Fund, and I venture to hope that they may once more see their way to help us. The case is urgent, as, after the expense incurred last season by the explorer and the further discoveries made, it would be a real disgrace to British enterprise if he were not in a position to complete the excavations.—I am, yours very truly,

GEORGE A. MACMILLAN,

*Hon. Treasurer.*

*Alexander Graham, Esq., Hon. Sec. R.I.B.A.*

The Council have granted the sum of £40 in aid of further excavation, and have addressed a letter to Mr. Macmillan expressing appreciation of the work already carried out.

#### Scottish Historical Monuments.

On the recommendation of the Secretary for Scotland a Royal Commission has been appointed to make an Inventory of the Ancient and Historical Monuments and Constructions connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people in Scotland, from the earliest times to the year 1707, and to specify those which seem worthy of preservation.

The Commission is constituted as follows:—The Right Hon. Sir Herbert Maxwell, Bart. (Chairman), the Hon. Lord Guthrie, Professor G. Baldwin Brown [H.A.], Mr. Thomas H. Bryce, M.D., Mr. Francis C. Buchanan, Mr. W. T. Oldrieve [F.],

Mr. Thomas Ross. Mr. A. O. Curle, Secretary to the Society of Antiquaries, Scotland, is to act as Secretary.

The terms of the reference are as follows: "To make an inventory of the ancient and historical monuments and constructions connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people in Scotland from the earliest times to the year 1707, such as: 1. Sepulchral cairns and other burial-places. 2. Forts, camps, earthworks, brocks, crannogs, and other defensive works, either overground or underground. 3. Stone circles and standing stones and rock surfaces with incised or other sculpturings. 4. Architectural remains, ecclesiastical and secular, including sculptured or inscribed memorials of pre-Reformation times. 5. Architectural or other monuments of post-Reformation times which may seem to the Commission desirable to include; and to specify those which seem worthy of preservation."

#### The late John Salmon Quilter [F.].

Mr. J. S. Quilter, who died on the 19th ult., was elected Associate in 1867, passed the Voluntary Examination in the Class of Proficiency in 1870, proceeded to the Fellowship in 1890, and served for a time on the Science Standing Committee of the Institute. He was architect of the new wing of the Kindergarten Training College in Talgarth Road, of the Froebel Educational Institute at West Kensington, of several houses and business premises in Westminster, Dulwich, Streatham, Norwood, &c., and was awarded first premium in the competition for the Police and Fire Brigade Station at Elswick Lane, Newcastle-on-Tyne.

Mr. ALEXANDER GRAHAM, F.S.A., *Hon. Secretary*, in announcing the decease at the General Meeting on Monday, referred to Mr. Quilter's long connection with the Architectural Association, of which body he was President thirty-two years ago. Mr. HUGH STANNUS [F.] asked leave, as an old colleague of Mr. Quilter's, to say that his loss would be keenly felt by many of the senior members. Mr. Quilter had done great work for the Architectural Association for many years.

*Erratum.*—Page 178, 2nd col., line 4: *For Posticum read Posticum.*

#### ALLIED SOCIETIES.

##### LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

Mr. G. E. Reason, Hon. Editor to the Leeds and Yorkshire Society, sends the following notes of a Paper on Christchurch Priory, Hampshire, read before the Society by Mr. G. J. Coombs, A.R.C.A.

Mr. Coombs said that the church of the Holy Trinity, Twynham, commonly called Christchurch Priory, is the building of most interest in the small country town of Christchurch, in the south-east corner of Hampshire. The origin of the church is lost, the documents having been destroyed, but there is an accumulation of legends. The crypts under the transepts and presbytery probably belonged to the original Saxon church, the legend being that Flambard destroyed the Saxon church to erect his building on the same foundations. The canons of Holy Trinity, Twynham, are mentioned in Edward the Confessor's time. The church is dedicated to Christ and the Holy Trinity, and in the Domesday Book the double name occurs. Flambard, Dean of Christchurch (afterwards Bishop of Durham), founded the present church in 1098, and the nave and apsidal additions to crypt and transepts are of Norman period. In 1150 it was converted into a priory in accordance with the wishes of Henry of Blois, Bishop of Winchester. From 1195 to 1225 the clerestory was added to the nave by the third prior, and at the end of the thirteenth century the nave aisles were altered and vaulted, and the north porch and chapels in the north transept added. In the fourteenth century the rood screen and reredos were added, and about 1400 the Lady Chapel was completed. The fifteenth century saw the western tower and choir completed, with the exception of the vaulting of the latter, which was finished early in the sixteenth century. The choir stalls are of Late Perpendicular character, though some of the misereres are much earlier, one dating from about 1200. In the sixteenth century the chantry chapels were built, including the celebrated Salisbury Chapel. The monastery was dissolved in 1536, after which the church was granted to the parish as the parish church, which may account for its preservation. In the nineteenth century much restoration work was carried out, and the nave was vaulted in stucco on wooden framing about 1819. Restoration is proceeding at the present time under Mr. T. G. Jackson, R.A.

### THE LATE G. F. BODLEY, R.A.

St. Michael's, Brighton.

Edenhurst, Marlborough Crescent,  
Bedford Park, W.: 13th Jan. 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I have no wish to intervene needlessly in regard to Professor Simpson's very admirable notice of my friend the late George Frederick Bodley, R.A., issued in the current number of the Institute JOURNAL. During the time of the first vicar, Mr. Beaulands, I lived for some years within a few yards of this church, and knew it well. The interior photograph reproduced on page 147 shows some greenery swags attached to the capitals of the nave arcade,

which most seriously interfere with their Early French character, and quite change their relative proportions. For the information of those who are not familiar with this almost unique example of Bodley's early work it seems desirable to mention that the swags in question seen in the picture merely represent someone's passing idea of appropriate temporary decorations on some festival occasion. They do not belong to the building, as some might think in these days, when swags *ad infinitum* appear everywhere and on everything. Indeed, it is just possible the uninformed will fancy this photograph shows that the questionable application of cast-bronze swags (so fashionable in much contemporary work now) was employed at St. Michael's, Brighton, by Bodley forty years ago!—Yours faithfully,

MAURICE B. ADAMS [F.].

### Mr. Bodley's Work at Oxford and Cambridge.

To the Editor JOURNAL R.I.B.A.,—

SIR,—The article on the great architect Bodley which appeared in the last JOURNAL will have been read by many of his admirers.

Professor F. M. Simpson refers but briefly to Mr. Bodley's work at Cambridge. May I draw attention to two short references that have appeared in the *Cambridge Review*? In the issue of 24th October the paragraph reads:—"England has lost a great architect in the person of Mr. Bodley. There is not so much of his work at Cambridge as of some of his contemporaries, but we may mention the buildings by the river at King's, Queens' College Chapel, and All Saints' Church. Probably none of these display his work at his very best, and it is a matter of regret that we have not such fine specimens of his art as exist at Oxford; we deserve to have a better memorial of so great a man."

This paragraph did not satisfy Dr. Peile, the Master of Christ's College, who wrote:—"In your appreciative notice last week of that really great architect, G. F. Bodley, while referring to what he did at Cambridge, you omit what many good judges regard as his best work—the library at Christ's. The decoration of the chapel and the hall are also excellent specimens of his manner. Perhaps he succeeded because he was left 'a free hand.'" How significant! "A free hand."

After a study of the churches at Clumber and Eccleston one must be permitted to differ a little from the Master of Christ's and others, who may consider Bodley's best work is at Christ's; yet we can but admire Dr. Peile's wisdom in going to a good man for advice, and then giving him "a free hand."—I am, yours faithfully,

G. A. HUMPHREYS [F.].

Llandudno:  
17th Jan. 1908.

## THE THEORY OF REFINEMENTS.

88 Gower Street, W.C. : 18th December 1907.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I am much interested in Mr. Goodyear's theories, but should not have written if I had not accidentally come across a photograph of the abbey

crossing, and shows conclusively that this was built absolutely straight, and has remained so. The white line shows that in the nave there is an outward inclination. The piers are straight; the shafts above the capitals are not—as at Rheims Cathedral, on which Mr. Goodyear has published a pamphlet. The piers have remained straight because the thrusts of the arches of the aisle vaulting have counteracted the thrusts of the nave vault. The latter have acted more on the masonry above because there was not such direct resistance, as the walling above the transverse arches over the aisles is built with horizontal joints, and doubtless none too carefully, and the courses would have a tendency to slide unless more strongly buttressed on the outside than they are. This, it seems to me, is what has happened at both Vézelay and Rheims; and if one can trust the photograph—I am not sufficiently a photographer to know to what extent distortions are possible—the outward inclination is greater above the string-course than it is below it. The result is an entasis; but is it an intentional one?

So far as I am aware, Mr. Goodyear has not cited Vézelay; but I publish this photograph because I think the argument for one church applies to others. If the Romanesque and Gothic builders employed these inclination refinements, there is surely no part of France in which they would more likely have used them than in Burgundy. For the old classic traditions were strong in the old duchy; and, as I know from personal observation in other churches of that part, other expedients were adopted to improve the perspective and correct or create optical illusions.

I may add that I am very sorry to find myself differing from Mr. Goodyear regarding his theory of outward inclinations in French Gothic churches, and wish I could become a convert to it; the more especially as I feel the great service he has done to architecture in

calling attention to other refinements in design which without his careful research would have remained unnoticed.—Yours faithfully,

F. M. SIMPSON [F.].



VÉZELAY NAVE, LOOKING WEST.

church of Vézelay, which I bought there some years ago. The chains by which the pendants are supported make two vertical lines, which I have carefully had strengthened in order that they shall show better.

The black line cuts one of the responds at the

19 Craven Street, Strand, W.C. :  
15th January 1905.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I am enclosing a small photograph showing the western arch between the nave and tower of St. Mary's Church, Dover, which may be of some interest while the question of refinements is under discussion.

I remember well the late Canon Puckle, when vicar, stating that its horse-shoe form and the want of verticality in the jambs were construc-



ST. MARY'S CHURCH, DOVER.

tional, there being no sign of disturbance found when the wall was laid bare for the present frescoes. He made this statement, in the face of the broken apex stones, nearly twenty years ago, and long before Mr. Goodyear brought forward the theories in which so large an interest is now being taken.

What may be the reason for vertical and plan divergences in mediæval work it seems that no one can determine, and Mr. Goodyear himself, as anyone will acknowledge who has met him, would be the last to dogmatise upon the matter. That they exist, however, is unquestionable, and to him is due the recognition of this fact and the suggestion that some law may underlie it which has at present been undiscovered.—Yours faithfully,

G. A. T. MIDDLETON [A.].

Brooklyn, N.Y. : 6th January 1906.

To the Editor JOURNAL R.I.B.A.,—

SIR,—Noting the letter from my esteemed friend, M. Enlart, in your issue of 21st December, I wish to call attention to the fact that my citations from his works are wholly confined to the entasis in free-standing piers or columns (*les fûts galbés*) and to a certain number of cases (all cited) of perspective illusions.

Such citation does not suggest any other agreement between M. Enlart's observations, or conclusions, and my own; and my reply to Mr. Bilson

does not anywhere suggest that any such further agreement exists. In fact, it implies the contrary, by the absence of other citations, or other mention of M. Enlart's name.—I am, Sir, yours faithfully,  
WM. H. GOODYEAR.

Facts and Theories in Relation to Refinements (p. 180).

23 Rutland Square, Edinburgh : 22 Jan. 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I certainly did not intend to class Mr. Prior as a disciple of Mr. Goodyear, but I do suspect that the springs of action in his case are not very dissimilar to those which produced the phenomena observed by the latter.

The sentence in which Mr. Prior says that the forms of mediæval architecture were not "fanciful deformations, but expediencies founded directly on structural needs," may, I suppose, be taken as a summing-up of the position assumed in his extremely interesting *History of Gothic Architecture in England*. My reading of the book did not lead me to look on Mr. Prior's view as necessarily so exclusive as it appears to be, but, no doubt, one may take the sentence above quoted in the light of the book, and the book in the light of the sentence.

I venture to think that, as so limited, the view is a fallacy. For to what is due either the structural need or the expediency founded on it? To many causes, but emphatically amongst others to the varying ideal of beauty. And if in earlier times that ideal harmonised itself with, or subordinated itself to, the structural need which it helped to create, yet later it demonstrated its individuality by breaking away (in the fourteenth or fifteenth century) and asserting itself at the expense of structure and to the detriment of the building as a unity.

What was it but the varying ideal of beauty which controlled the height or mass of the tower, which uplifted the four-square slate roof of the belfry into the slender tapering spire, which (earlier) elongated the narrow lancet like a flower seeking the sun, which (later) spread its spacious openings so that the wall became but a frame for its tracery, which took the form of the arcade and used it as a decoration and filled it with images, which gave us moulding, carving, the cusp, the ogival head and (near the end) fan-vaulting—which, in short, was the driving power towards all that we hold beautiful and a good deal that, in its decay, we hold not beautiful? These things and many more were due to the varying ideal of beauty, and were as truly "fanciful deformations" as anything designed to-day with the aids—or hindrances—of modern appliances and methods. To deny that would be to deny that the mediævals exercised, within their limits, choice, selection, or imagination, and would reduce them to the position of blind slaves of some power outside themselves in a sense which would be untrue of all other creative artists. How, logically, such fanciful deformations

as those quoted can be fenced off from some of the phenomena recorded by Mr. Goodyear I cannot understand.

But now to return to the point of my previous letter. Suppose one rejects Mr. Prior's theory, is one therefore to reject the patience and industry, the observation and insight, contained in the data accumulated in his book? Is one even to reject all his other deductions because one finds this generalisation unacceptable? The question answers itself, and, in my view, not less in Mr. Prior's case than in Mr. Goodyear's, or Viollet-le-Duc's, or Freeman's, or Ruskin's. Let us accept facts so far as they show them to us; let us consider their opinions and form our own. Every clear theory contains truth, but no theory contains all truth; it is more profitable to get near the heart of a subject by welcoming any facts than by merely protesting against deductions drawn from them.

As for facts observed and recorded by Mr. Goodyear, when all allowance is made, there are plenty of these. To go no further back than the Amiens controversy (with which, as controversy, I am in no way concerned) it is specifically admitted (JOURNAL, 7th December 1907, p. 85, at bottom) that Mr. Goodyear has shown deformations to exist where none were suspected. They may be intentional or they may be accidental; the point is that they are there, and that even the architect in charge of the building saw nothing of them. So Mr. Enlart, anxious to clear himself from complicity in Mr. Goodyear's view of Amiens, specifically and definitely reaffirms the correctness of Mr. Goodyear's observations, and of the theories based on them, for "un très petit nombre d'applications ou à un très petit nombre d'édifices." But if even one example be admitted, how strong is the case for the examination of all the data and of those innumerable buildings on which no observations have been made—how much stronger, if Mr. Prior will forgive me, than a negative attitude of objection to theories! On the one line we get closer to the heart of mediæval work, on the other we but deafen ourselves with the rattle of the dry bones of the intellect.—I am, Sir, yours obediently,

F. W. DEAS [F].

## VISITS TO BUILDINGS.

14th January 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I have seen several suggestions made that members should send contributions to the JOURNAL. May I say that suggestions might also be invited from members for the advancement of the usefulness of the Institute itself? For instance, why does not the Institute take up the Technical Bureau that is now being formed? It would be good work for the Institute itself to have control of this. Also why should there not be a visiting committee, such as the Architectural Association has, so that visits might be arranged once a

fortnight or so to important modern buildings? Unless one belongs to the Architectural Association one gets few chances of seeing such buildings, and the Institute might easily arrange visits of the kind. Seeing that the Institute contributes to the Architectural Association, members of the Institute might perhaps be allowed to attend visits of that body. Another idea is that the Institute should have cards of admission available for the use of members desiring to visit the works of their *confrères* of the Institute.—Yours truly,

"Nocs" [A.].

## SAFETY EXITS.

To the Editor JOURNAL R.I.B.A.,—

SIR,—Mr. Chisholm will, I think, see on reading the Paper on the above subject that I did not, as he states, think only of deaths resulting from crushing.

That a great proportion of deaths occur by people falling on each other the two lamentable disasters which have occurred since my Paper was read, as well as the accounts of nearly all others, show only too clearly. I sought to explain the reason for people falling, and showed by the models that whenever the resistance offered by the crushing of people in a corridor or doorway is such as can be overcome by the pressure of those behind, those in front will be thrown violently down, to the great danger of all.

I endeavoured to show that, whether death results from falling on each other or by being crushed together, in either case it is the result of defective structural arrangements which should not be allowed to exist.—Yours faithfully,

S. HURST SEAGER.

## MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1907-08, held Monday, 20th January 1908, at 8 p.m.—Present: Mr. Thomas E. Colcutt, *President*, in the Chair: 34 Fellows (including 12 members of the Council), 49 Associates (including 1 member of the Council), and numerous visitors, the Minutes of the Meeting held 6th January 1908 [p. 180] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President, viz., Robert Heath Mew, *Fellow*; George Eslemont Gordon Leith and Spencer Harris Joseph Murch, *Associates*.

The decease was announced of John Salmon Quilter, *Fellow*; and Francis Edward Morris, *Associate*.

A Paper by Mr. W. T. Oldrieve, F.S.A. Scot. (F.), on ROYAL PALACES OF SCOTLAND having been read by the author and illustrated by lantern slides, a vote of thanks was passed to him by acclamation.

The Acting Secretary having read the Deed of Award of Prizes and Studentships 1908 made by the Council under the Common Seal, the sealed envelopes bearing the mottoes of successful competitors were opened and the names disclosed.

The proceedings then terminated, and the Meeting separated at 10.15 p.m.



## THE THEORY OF GREEK ARCHITECTURE.

By Professor W. R. LETHABY [*P.*].

Address to Students delivered at the General Meeting of the Royal Institute of British Architects,  
Monday, 3rd February 1908.

**W**HEN our President honoured me with an invitation—command, I considered it—to prepare an address for this evening, I felt it due to the occasion to refrain from any question which might seem narrowly controversial, or too much identified with any personal views which I may before have expressed; and I suggested that I should bring before you some reflections on the theory and principles of Greek art as the type of the classical spirit. I may need to excuse myself for speaking on such an abstract subject; I know that some of my friends are given to thinking that theorising is incompatible in some way with practical work, and that the great works of the past were done by men who wrought rather than talked. This, fortunately, is a question that can be tested by the historical method, and I believe that concern with theory is only inimical to some kinds of work which label themselves practical, and not to all of them, or to the best.

It appears that the Greek architect, especially, was expected to hold and announce theories on his art, and many Greek architects published critical analyses of the buildings they had erected. Vitruvius tells us that Chersiphron and Metagenes wrote an account of the Ionic order of the Temple of Diana at Ephesus, that is, of the earlier temple, which was being built about the middle of the sixth century *n.c.*; that Ictinus and Carpion wrote on the Parthenon, of which Ictinus was one of the chief architects; and that Pythios wrote a volume on the Ionic Temple of Athena at Priene, of which he was architect, and, with Satyrus, an account of the Mausoleum. Of others he tells us that they produced general treatises on the symmetry of Doric buildings, or on the proportions of the Ionic and Corinthian Orders. And it was from these Commentaries that he gathered his facts as to Greek architecture. When we come to comparatively modern times we find that in all branches artists were ready to express their thoughts in a literary form. Giotto and Botticelli were writers, Leonardo was

a profound philosopher, Michael Angelo wrote sonnets, Dürer was a patient investigator, Reynolds an able essayist, Blake a great poet, and Morris was at once a giant with his hands as a productive worker, and with his pen in every form of literature. Most of the great architects from Alberti to Chambers wrote as well as built.

Not only were the Greek architects expected (it almost seems) to give a reasoned account of their art, but some of them, and those not the least practical, ventured into the field of general theory and sociology. Thus Socrates seems to have been a stone-cutter; and Hippodamus of Miletus, a famous architect of the great Periclean period, who laid out the Piræus and the cities of Rhodes and Thurium, anticipated Aristotle in treating of city polity. The latter, in the "Politics," tells that "Hippodamus the Milesian, the same who contrived the art of laying out towns, was in other respects over-eager of notoriety, and seemed to many to have had a very affected manner with his flowing array of locks and expensive ornaments, and a coarse warm vest, which he wore not only in winter but also in hot weather" (you see he was a clothes reformer, and wore homespun!) "He was the first who, not being actually engaged in the management of public affairs, took in hand to lay down what sort of government was best."

If I have justified the claim that the practical worker may—indeed, in an advanced age must—be interested in theory and principles, I come up against another feeling, acknowledged or latent in many minds, a sort of despair of finding one's way; for there are so many theories, and they are so contrary to one another. Of course there is contradiction, and to some extent nothing, for instance, could ever bring Ruskin and Fergusson to agree, or even to understand each other. And for myself, I must confess that I get rid of this class of contradiction by sweeping Fergusson—as a theorist, not as a painstaking collector of facts—out of my field of vision altogether. Very largely, however, these apparent contradictions are matters of difference in aspect, and of different use of terms. Thus, I remember being told that Aristotle said that Art was imitation, and wondering how he applied it to architecture. Later it was a comfort when I found out that it was specially limited not to apply to architecture, for that was not to be considered a "fine art," being too much conditioned by necessity to be imitative. Then it was explained that "imitation" was not at all copying of Nature, but something very subtle, a sort of power of thinking clearly and presenting vividly; an imitation, this, very much like what Ruskin meant by his "imaginative faculty." This last, on the other hand, was not anything fanciful and bogey, like that which too many of us mean by imagination, but the power of inward sight, the power of seeing in images. If I have gained your consent, and, more, your sympathy, in such an inquiry, I want to ask, What was the essence of Greek Architecture, the people's mind, behind the triglyphs, epistyles, and pediments? And, still further, how may we apply the classical spirit to modern problems? The architectural features were inherited; it is not those which concern us, but the underlying theory which dealt with them.

The material was not only inherited, but inherited from a stage of primitive art not very remote. In the text-books the origins of Greek architectural elements are rightly touched upon; and in the sudden emergence of the perfect Greek civilisation we have one, and that perhaps the greatest, of the factors which ruled Greek architecture throughout its development. Barbarism was all around, and barbarism was only of yesterday. The Periclean age was only the first round, as it were, of a critical civilisation. Everywhere you will find evidence of this. I happened on the thought the other day in a translation of Lucretius, and Professor Gilbert Murray's *Rise of the Greek Epic* is full of it. The architecture of Athens was in darkness a hundred years before the building of the Parthenon. The lesson and substance of Greek architecture for us, if we could get at it, is in the principle; the features themselves are

largely accidental and primitive. As Morris said, with marvellous directness, "the Parthenon is a glorified Stonehenge." In a word, the Greek art ideal was intensity, not variation or originality. They worked on the types ready to hand, but they would have perfected chimneys, window-openings, and down-pipes. I cannot, of course, cover the whole field of Greek architecture, but I wish especially to raise again the question of proportion, on which, as I think, so much vague and high-flown nonsense has been talked by persons who have never waited to ask themselves what they can mean. Proportion to the modern mind can, I think, mean in the main only organic fitness plus habit. To the ancients from their manner of thought it meant more; it was undoubtedly believed that the perfect work was conditioned by a scheme of related measurements. This idea of proportion meant first what was assumed to be a proper relation of parts to one another and to the whole—that is ratio. It also seems to have meant the use of similar ratios in different parts, giving a series of dimensional echoes. Now, of course, we all believe in "organic fitness" and the "proper relation of parts," but the insoluble queries are—What are they? How are we to find them? To the Greek mind proportion meant the discovery of a law of typical perfection like the laws of geometry, number, and music: to apply it to building was the way to attain to an Absolute Architecture.

That simplicity, orderliness, discipline are best we can all acknowledge, but the modern man seeks right and fitness by direct experiments. From a long series of experiments he may at last deduce some general laws. He does not first assume some simple mathematical relation of parts for his chemical compounds and experiment only along those lines.

In the modern bicycle, locomotive, or fiddle, for instance, a general relation of parts (*its* due proportions) has been reached. This ratio is the accident of the bicycle, but to the classical mind the bicycle would be the accident of some supposed perfect ratio.

It is obvious that the complexity of the modern bicycle makes such an idea difficult of application, while the long-continued simplicity of temple architecture made the idea perfectly simple. It was from this assumption as to typical perfection, arrived at by mathematical relation of parts, that the method of proportional measurements arose which forms the crudest aspect of the theory of proportion.

It is easy to see that if there be a perfect ideal for a chamber or a pillar, the forms are likely to be such as can easily be brought to a definition. The chamber, on this theory, is likely to be a cube, or a double cube, or to be two parts wide, three parts high, and four parts long. The whole of this idea of perfect relations depends on *simplicity*, for in any quantities, of course, there is no getting away from ratios of some sort: 7 to 13 is a ratio, but not so simple a one as 6 to 12. Any gin-palace at any corner is much fuller of ratios than the Parthenon, but they are not so simple.

I suppose it was held that a well-proportioned temple was agreeable to the eye, but I am sure that the æsthetic agreeableness had little to do with it; perhaps it has less to do than we think with any great school of building; perhaps it is our twiddles to trick the eye that most betray us. To the ancient mind the thing made was only worthy to exist in so far as it followed its proper laws of being. The well-proportioned temple had *reality*, it embodied law, it was an approximation to the absolute type, it was superhuman, and held some magic of perfection; the Parthenon was not designed, it was embodied, found out, revealed.

While the benefits which came of following this line of development are manifest, it was only one of an infinite number of possible starting points. It is the starting, not the point, which matters. I can see no ground, however, for any of the assumptions. I do not see that a tree is likely to be more of a tree or even more agreeable to the eye for being twice as high as it is broad, or that we do anything more wonderful for a bicycle by expressing its ratios in the modulus of the backbone than if we give the size in inches. The tree is proportioned to

its kind, age, soil, climate, the rains and wind; and the bicycle corresponds with a long series of conditions.

The method of ratio measurement as used by Vitruvius is merely absurd, and can only be a parody of Greek thought on the subject. If Nature, says he, has made the body so that the members are measures of the whole (the modulus system you see clearly expressed), so the ancients have determined that in their works each portion should be an aliquot part of the whole. This seems quite simple, but the body is not so proportioned, and the theory never answers the master question as to how many parts of the lesser should go into the greater. How, for instance, are we to know if a column should be eight, nine, or ten times its diameter in height, and if either eight or nine why not anything between; indeed Vitruvius himself preferred eight and a half. It reminds one of the system of the London contractor who framed his estimates by multiplying a quarter by four—the quarter he guessed. Again, Vitruvius gives it as a great fact of natural proportion that if a man lies down with his arms fully extended he may be included in a square or a circle. He doesn't mention that, as the arms do not radiate from the middle of the body but from near the head, if all can be included in a circle the square which is also to enclose him will be very oblong. He is assured that "beauty is produced by the dimensions of all the parts being duly proportioned to one another." So are we, but the questions remain, Which, and how, and where?

Under the Greeks this conception of types and ratios provided a path to architecture. All the essentials were settled by custom and experiment, and the exact dimensions were fitted on later; but the ideal, the fact of having an idea, led on and on to the perfecting of types, if not to the one perfect type absolute and fixed.

As a result of these considerations, so far, I might offer a definition of architecture as—building, and the other arts associated with it, *continuously developed* along a certain line and in harmony with a guiding idea.

What I have been trying to say in regard to the development of Greek art has been so well said by Professor Butcher in reference to Greek literature that I shall make a free quotation from a passage or two:—"Nothing comes of its own accord to men, but all things by experiment. On the same principle, tragedy itself, as Aristotle remarks, having passed through many changes, found its natural form and there stopped. Man's selective instinct, working tentatively, brought the process of development to its proper term. When once any particular type was created, it assumed its sharp Hellenic outline. No blurred image, no confusion of kinds, was permissible. Any deviation from the type fell within well-defined limits. Each branch of literature obeyed a stringent code of its own. Its governing tradition answered to an artistic sense that art, to be progressive, must also be conservative. It must maintain a spirit of reverent regard for the past. Old materials must be used up; new ideas, whether of native origin or due to the absorption of foreign influences, must be slowly assimilated. In literary, as in artistic, development, there is growth and orderly advance. The whole effort of Greek literature is to evolve itself in unbroken sequence, without the rude snapping of any links which bind the present to the past, with no premature rejection of existing elements. Yet the persistent force of tradition did not check the free play of individual genius. The more rigorous the rules the greater the triumph of genius in obeying them without effort. The domain of the drama was by degrees restricted, but the narrower limits within which freedom was henceforth possible stimulated, rather than checked, dramatic originality. . . . The great writers, by the very force of their individuality, accept with ease much that is conventional. Thus Greece presents the phenomenon unique in literary history, namely, the creation of *fixed types*, governed by a rigid code of rules, yet working in harmony with the spontaneous play of native faculty."

This passage may remind us of another, in which Ruskin speaks of the Venetian builders as casting aside, one by one, many of the features and ornaments which were in common use, before they attained to freedom, force, and depth. As I want to insist on this view, that to deepen the current we must restrict the field over which it flows, I take a further passage from the great German critic of Greek sculpture, who died about six weeks ago (Furtwängler), which I have just lighted upon. "The ancient artist clung to established types of far-reaching influence. He obeyed laws and rules in his treatment of bodily forms and attitudes, which he modifies and alters, extends and fashions, after a new inspiration, but which yet impart to his whole production a something inevitable, typical, known by rule. It is this which brings about that unique effect of the antique which Goethe sums up in the words, 'These great works have been brought about in the same wise as the operations of nature. Everything arbitrary, everything self-conscious, disappears. There is Necessity, there is God.'"

The Greek ideal of proportion cannot be brought back; and, indeed, to some extent it may have been mistaken, but we can well see how the thought arose. At a time when the laws of geometry and music were being collected and investigated for the first time, when the paths of the stars were being mapped out, and language and politics were all being systematised, it was natural to search for the lines and measurements of the perfect building, musical in beauty, an expression of eternal law.

Perhaps we are now in a position to imagine what the orders were to the Greeks. The pillar and its beam were the most important and highly developed members of the structure; on the mainland they were perfected along narrow lines, and with their details became that very curious assemblage of parts which forms the Doric order. Change, design, originality, were all excluded. The pillar was their own inherited pillar, the germ of a perfect type which they were to discover by experiment and adjustment. In the great colonies of Asia Minor another type of column and beam was developed from a primitive original, and at last obtained in Greece proper an almost equal authority with the Doric order. Both of them were probably held to have been from the beginning like male and female (an image, indeed, which Vitruvius uses for them), each perfect of its kind. These are, properly, the only Greek orders: the Corinthian, as Choisy notices, is but a variety of the Ionic, and arose only at a late time, when the spirit of variety was entering into the classical art which it was to disintegrate. Each of the two great orders had essential character to be developed in differentiation. To mix their traits was to go against their proper genius. As well might one mix beef and mutton, or claret and hock.

Before passing on I should like to separate distinctly the two chief characteristics of Greek art which have engaged our attention.

I. By its historical position it was near to the primitive. It carried forward many features as inherited traditions. Such, for instance, were its triglyphs and guttae, its stout columns and stone beams; and these were, in a sense, sacred. While writing this I have found this condition well summed up in a phrase by Mr. Berenson, the able critic of the Italian masters. "No art," he says, "can be classic unless it has been also archaic."

II. It was shaped by a philosophy according to which that which it inherited was not accidental, but the germ of an architecture complete and absolute. Its object was to go forward in unfolding the possibilities contained in this code, not widening its scope, but rather narrowing and deepening it. Originality in the modern sense was foreign to it. It sought to develop and fix types, to grasp the perfect and the lasting.

The problem which the study of Greek art or of Gothic art opens before us is not properly as to what they did, but how they did it as a process; and the question how we, too, may lay hold on destiny. The Gothic law of adventurous energy and the classic law of

development from within are both needed. It is not finding or inventing of features that will do anything for us; no individual search for proportion, beauty, or design can help without a wide basis of agreement. What we do want in our art to-day is: exact knowledge—engineer's, planner's, workman's knowledge; discipline—the training of a school which shall prune away mere excrescent fancies; and, above all, agreement—a voluntary subjection to reason, seriousness, reverence. It has sometimes been doubted whether a true school of art can be maintained in a highly developed and critical civilisation, but the study of Greek art seems to give a hopeful answer, although all hinges, now as then, on the possibility of finding a basis of agreement. If there is no general consensus as to the way in which work should be done, there is no mould for development to run in, but only little spasms of fashion. As George Eliot has remarked, "Great and precious origination can only exist on condition of a wide, massive uniformity. When a multitude of men have learned to use the same language, then, and then only, can the greatest masters of language arise."

The artist cannot for long be a creature unsupported in the air. He has, on the contrary, to find his support in ordinary life, common needs, and the sympathies of his fellows. On such a basis were the great pyramids of art of the past reared. A real process of development was set up by which the infinite possibilities hid in life, nature, and materials were continuously explored and built out step by step beyond the sphere of the known. The artist, then, was a medium through which the nature of things was discovered. Art was not volition, it was revelation. Now, with our genius and originality, we are all little separate pyramids six feet high at most; our arts are one man thick, not ten thousand men thick.

We moderns cannot be classic in one sense, for we are far away from the primitive, and inherit no sacred, archaic customs of building. All architectures, however, in civilisations of the modern kind will have, to some extent, to be classic, just as they will also have to be Gothic in energy and fearless experiment on the side of structure. There is nothing, however, so far away from the classic spirit as some of the modern works which would claim the name of classic. The heaping together of degraded borrowed forms in a promiscuous debauch of what is called design has, of course, nothing in common with the serene and clear genius of the Greeks. Some phases of the so-called Gothic style, such as the Cistercian abbeys in England and the north French cathedrals, notwithstanding all the unlikeness of the forms, approach very near to the classic spirit. Greek and Gothic alike teach that no great architecture can be the light and lax exercise of will and whim.

For a few last words I should like to draw a little nearer to the students' competitions, the subject which brings us together to-night. I am heartily glad that no detailed notice of the drawings is expected from me. On the one hand, I know that I should praise them extravagantly for the powers and devotion they show; on the other, I might be led into seeming blame of some aspects of the works which it occurs to me are in little or nothing the fault of the students, but rather the fault of ourselves and older generations, on the principle that when the fathers eat sour grapes the children's teeth are set on edge. I end, therefore, with just two suggestions, which I should like to call practical were it not that there might be a difference of opinion on that point. One is to the students, that they should make some effort after the classic spirit, and towards agreement amongst themselves—a little common ground is better than none, and if all the able and enthusiastic men of this year could get together they might decide what was to be the course of English architecture during the next twenty or thirty years. If they decided wisely to study scientific construction and convenient planning, to endeavour constantly to improve what we have and know, and to throw out the irrational element in modern architectural design; if they agreed on their scholarship travels to do some definite and exhaustive pieces of architectural study; if they even encouraged real,

common-sense draughtsmanship, colouring and lettering—undoubtedly great good would come of it. A few young men meeting together as pre-Raphaelites altered the whole course of English art. It is vain to expect this agreement from older men; they have passed beyond the stage where it is possible, and are thinking of other things; but I should like the youngsters to form a union and settle that reason shall rule in architecture for a generation.

To the members of this Institute I would venture to suggest that it might be possible to take a step in raising the academic status of these competitions, especially in making their results in historic scholarship more generally available: first, by inviting travelling students to undertake definite pieces of work like a renewed study of the Parthenon or the Pantheon; and secondly, by publishing the researches in an annual volume to accompany the Proceedings. I am even ambitious enough to hope that this Institute may some day be induced to spend some of its wealth (it has at least *my* subscription) in special exploration. Why should not our own students excavate a Greek site for this Institute?

## REVIEW OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1908.

By E. GUY DAWBER [F.].

Read at the General Meeting of the Royal Institute of British Architects, Monday, 3rd February 1908.

MR. PRESIDENT, LADIES, AND GENTLEMEN,—

**T**HE duty of criticising the work of our students submitted for the various prizes has this year fallen to me, and I must confess to a certain feeling of trepidation in acquiescing with the desire of the Council that I should undertake it.

On looking round the gallery at the Alpine Club and contemplating the exhibition of drawings, and considering the enormous amount of thought and labour which their production entailed, the task of reviewing this work and holding the balance fairly between undue praise and narrow criticism seemed indeed a difficult one. But I must admit that it has been a most pleasant experience, and although I have spent many hours during the past week in examining these four hundred and forty-four sheets of drawings, at the end I came away with the conviction that if we have such earnest and painstaking students as these in our profession there need not be much misgiving about the outlook for the future.

The Institute is to be heartily congratulated on the excellent display this year. With perhaps one exception—that of the Soane—all the work submitted is of a high order and more than maintains the standard of former years. The number competing is exceptionally high, being no less than ninety-four against the sixty of last year. It is interesting also to note that the prizes which are of the least monetary value have attracted some of the keenest competition, and this, again, is most gratifying, as it shows an enthusiasm on the part of our students quite apart from the reward offered.

The quality of the draughtsmanship is higher than of late years; and although it is possible to exaggerate the importance of good drawing, yet all will admit that the art of expressing one's ideas on paper with power and facility is of immense advantage, and that no really able architect was ever a bad draughtsman. For this reason, if for no others, I would urge all our students to cultivate drawing, and to study the best examples and try to emulate, if not to surpass them.

On looking at the designs as a whole, it seemed to me doubtful if the competitors have taken sufficient care to thoroughly grasp the problems set—whether they have understood and appreciated the conditions and realised that a building should be made to express its purpose in its design, and that this quality is of the very essence of good architecture.

In the competition for the Soane Medallion, for example, the primary object of the building seems by many competitors to have been entirely overlooked. The subject, a Customs House, at once suggests a building quiet almost to severity in its lines and grouping, having a sternness and dignity in keeping with the dangers and vicissitudes of the sea; yet, almost without exception, it has been treated in much too municipal a spirit, and grandiose erections more like town-halls and libraries have been designed.

Again, I notice how much some students are influenced in their ideas by the passing fashion of the day: some noteworthy building is erected, and immediately any striking or unusual feature in it is borrowed and applied without regard to its suitability. I feel that students should learn to study buildings and not to copy them, and that a more severe and scholarly type of design should be encouraged in these competitions, though with our present system of education this, perhaps, is somewhat difficult.

It is particularly pleasant to record that no fewer than eight of the ten prizes have been won by members of our junior body, the Architectural Association.

With these few remarks I will begin my criticisms.

#### THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS.

Four essays were submitted, and the Council considers that none of them are of sufficient excellence to justify the award of the prize. Mr. Percy M. Stratton has, however, made a fair attempt to deal with the subject, in spite of an unduly discursive style, and the Council have given him a Medal of Merit, and an Hon. Mention to Mr. Henry H. Hill, who submits an excellent treatise, but hardly an essay. It is much to be regretted that the literary side of our profession should be to a great extent neglected. This is hardly to be wondered at, for so few, I fear, read these essays. A student aspires to compete for a prize where he can at a glance compare the result of his own work with that of his fellows. It is, undoubtedly, a great advantage to be able to express his thoughts and ideas in well-chosen language as well as in beautiful drawings.

#### THE MEASURED DRAWINGS MEDAL.

I am glad to notice that the prize has this year attracted fifteen competitors, against the six of last year; and the drawings by the winner, Mr. Leslie Wilkinson, of the Gran Guardia Vecchia, Verona, fully sustain the standard of work always associated with it. Mr. Wilkinson has submitted a beautiful set of measured drawings of this simple yet dignified building of Sanmicheli, rendered in a sympathetic manner, and showing that he has thoroughly absorbed and caught the spirit of the original work. The careful yet boldly drawn details, with the jointing and construction of the masonry clearly shown, all evidence care and method in measuring and an earnest endeavour to understand the anatomy of the building.

An Hon. Mention and Five Guineas have been awarded to "Cantii" for a fine set of drawings of Cobham Hall, a picturesque building well worthy of being recorded in this way. The drawings not only show the complete plan of the house and surrounding buildings, but also the lay-out of the formal gardens and elevations of every part, with details to a larger scale—a painstaking work, and one which, if regarded only as a study of a seventeenth-century English house, must be very valuable.

The Council have also given an Hon. Mention to Mr. Maurice Lyon for his studies of the Porta del Palio, Verona, another fine example of Sanmicheli's work. The subject is a strong one, and Mr. Lyon has submitted very artistic drawings in pencil, tinted with a wash of colour and with the shadows projected on the plans, as well as the elevations—an effect in the former case not altogether satisfactory. The perspective admirably shows the huge solidity and massiveness of the structure.

"Vetrix Fortunæ Sapientia" sends drawings of Barrington Court, Somersetshire, a building recently purchased by the National Trust. The plans and elevations are drawn in a bold and spirited manner, and the numerous dimensions evidence the care taken to thoroughly investigate the building. It would have been well to complete the drawing of some of the window-heads in the small-scale elevations, as the white blocks in outline give a false impression of the detail shown in the larger ones.

"Fairfax" shows an interesting set of the Banqueting House in Whitehall, well worthy of mention, and delineated with a crispness and vigour that is most pleasing. The sections are full of interest, and illustrate the construction of the roof, and the ceiling, which has been recently restored, divided into panels. His perspective sketch unfortunately mars this otherwise good set, and would have been better omitted; in many places it is out of drawing, and does not do justice to this well-known building.

Hampton Court Palace has again attracted a student, and "Lancastrian" sends in drawings of the Fountain Court. They are carefully rendered, but suffer from the rather indefinite freehand drawing and the manner in which the full-size details have been shaded.

The drawings of Heckington Church and St. Leonard's at Hythe, though most painstaking in every way, are somewhat lacking in vigour, and have not caught the spirit of mediæval work.

"Tyke" and "Cant Wara" also sent drawings of churches at Greenwich and St. Mary Woolnoth, but they hardly come up to the standard, and are somewhat thin and unconvincing.

In the sheets submitted of Thornton Abbey, in Lincolnshire, a singularly interesting subject, exactly the opposite effect is produced, for here the student has perhaps overdone the heaviness of his drawing; both joints and outline being indicated with the same strength an effect of confusion is produced, only the more emphasised by the weak delineation of the carving and sculpture. This is to be regretted, as the drawings made on the spot bear evidence of very careful study.

"Mediæval" submits a set of Crosby Hall, now being demolished. The details well explain the fine open-timbered roof and oriel window, and make us regret the destruction of such an interesting building.

It should be remembered that it is not only the finished drawings exhibited on the walls that have gained the prizes, but that to a large extent the Council have been influenced in their award by the original sketches and plottings made on the spot. This prize may be regarded as one of the most useful the Institute offers. It is essentially for the study of some complete building. The importance of such work should not be overlooked, for the knowledge gained by students who have mastered the design, planning, and detail of a building of recognised merit must be of great value.

#### THE PUGIN STUDENTSHIP.

There are no fewer than twelve candidates for the Pugin Studentship, and the work generally is extremely good. Mr. Sidney G. Follett carries off the prize with a fine series of drawings and sketches, crisp, clear, and explanatory. He sends measured details from West Walton Church, in Norfolk, and Warmington Church, in Northamptonshire, and charming

sketches from Linlithgow and Dunblane. The measured sketch of the lectern at Oundle, with all details shown, is quite typical of what an architectural sketch should be. He also sends admirable water-colour studies from Italy.

Mr. Winter Rose, who gains a prize of ten guineas, submits a large amount of work, with the exception of the measured front of Binham Abbey, chiefly sketches. Most of these are in colour, some very sympathetically and freely drawn.

An Honourable Mention is gained by Mr. Hadwen, who has done much admirable work in Yorkshire and Warwickshire. He sketches with a clean, bright touch, and evidently soon gets into sympathy with his subject. His measured work is also interesting, though it should be remembered that all jointing in masonry should be accurately shown.

Mr. A. D. Robinson sends a strong set of sketches and drawings of the Guild-Hall at Peterborough. He evidently is a powerful sketcher, but many of his pencil sketches are somewhat coarse, and seem to be too hurriedly done. Good drawings may be expected from Mr. Robinson in the future if he takes his sketching a little more seriously.

Much excellent work is shown by Mr. A. Welford, who has a delicate yet sympathetic touch, and the series of sketches and measured drawings he sends from the Cotswolds and elsewhere are very delightful.

Others whose work is to be commended are Mr. George Vey, with good studies from South Kensington Museum; Mr. J. B. Surman, with conscientious work from Wells and Glastonbury; and Mr. T. H. Whittaker, whose pencil sketches promise much for the future. Mr. H. M. Travers has a good eye for colour, a sketch of some old houses in Coutances being full of breadth and feeling, and he also draws the figure and sculpture with great freedom and delicacy.

I rather feel that a point to be borne in mind by competitors for the Pugin is that more attention should be given to the production of analytical studies and sketches rather than to pretty perspectives. The bold sketch, with detail vaguely suggested, is not of such ultimate value to the student as that which shows an attempt to get at the dry bones of the subject as well as the pictorial exterior. And also that, as this prize is essentially for the study of mediæval architecture, the work submitted for it should be more or less Gothic in character. Much of the work sent in cannot be classed under that head at all, though I am aware it is in accordance with the conditions.

#### THE OWEN JONES STUDENTSHIP.

We have next the Owen Jones Studentship, and for this the competition has been keen. Three sets of drawings were sent in, all of considerable and nearly equal merit. The studentship has been awarded to Mr. A. E. Martin, who shows most excellent work, treated on broad architectural lines, and showing a fine sense of colour and refinement. He sends complete studies made on the spot of Santa Maria del Popolo at Rome, showing the colour decoration of the entire church, with the beautiful painted ceiling over the choir by Pinturicchio drawn to a larger scale; drawings from Santa Maria del Fiore at Florence, fresco decoration from Assisi, sketches from Siena and many other parts of Italy, delightful decorative work from the Palazzo Cantaldi at Genoa, and an original design in colour.

Mr. Matthew Dawson, who competed two years ago, is awarded the second place, and Mr. Rossé the third—the former exhibiting in his work a greater feeling for the use of colour, whilst the latter shows much ability in recording it.

Mr. Dawson's studies from the Ducal Palace at Venice and details from San Miniato and the Campanile at Florence are excellent, and show how this student has progressed in his work.

Mr. Rossé sends a series of conscientious drawings from South Kensington Museum and

also from his native country—Holland; but these, whilst exemplifying his versatility in the management of colour, hardly illustrate its combination with architecture as ornament, though doubtless with such ability as he possesses he will soon be able to apply it.

#### THE SOANE MEDALLION.

For this competition, a Customs House on a Quay, no fewer than twenty-eight designs have been submitted, and the studentship and 100*l.* have been awarded to Mr. George Drysdale.

Mr. Drysdale has arranged a simple straightforward plan, with a large central hall balanced with wings at the sides, approached through archways from the quay, and with exits on the town side—the whole scheme being carefully thought out and arranged. In his elevations a distinctly modern French treatment, Renaissance in character, has been very successfully employed. The design as a whole seems rather too much broken up in its masses; the central block, unless seen from some considerable distance, would be cut off by the projecting lower stories. The tower, although suggested in the conditions, seems out of place, and would be better omitted. The elevations and sections, and the details more particularly, are beautifully drawn and tinted with washes of colour.

An Hon. Mention is given to Mr. R. R. Prentice, who has a good symmetrical plan with a square hall entered through a portico divided into five bays by piers. The elevations are dignified and well conceived, but exception might be taken to breaking the continuity of the modillions in the main cornice over the window-heads. The tower is well designed.

Mr. Alan Binning, who also receives an Hon. Mention, sends a thoughtful scheme, distinctly clever and showing much ability; at the same time it produces a feeling of unnecessary weight, and seems more suggestive of a mausoleum than a customs house.

"Minerva" has a bold and striking composition, delineated with a set of excellent drawings well worked out; but the result, again, is not a customs house, but an hotel de ville or casino of very florid character.

The design of "H.M.S." is decidedly pleasing, and is well illustrated by a good water-colour; but in this case the central dome has nothing to lead up to it, and rises from the flat roof without any base. It is a quiet and unpretentious building, in great contrast to some of the others.

A good symmetrical design is submitted by "Torus," but here, again, the author has treated it more on the lines of a town-hall. His half-inch elevation of part of the entrance front is a fine piece of draughtsmanship, and admirably shows the detail and character of the architecture.

I must not omit to mention the drawings of "Omega," who has a good symmetrical plan with elevations treated in Classic style, with columns and pilasters carried up through the two stories. The whole is forcibly grouped and illustrated by a strong set of drawings.

"Transire" has sacrificed the utility of his plan, which is straggling and lacks concentration, in order to get length into his elevations. These, however, are decidedly good, and show evidence of much careful deliberation and study. The long line of front is very strong and dignified.

"Scarabeus" sends a well-worked-out study based on the architecture of Holland in the seventeenth century. As an archaeological record it is clever and interesting, and is admirably explained by beautiful drawings; but the plan lacks practicability, and the whole seems out of place to-day.

"Floreat," "Southern Cross," and "Bacino" are all worthy of mention, but time will not allow me to say more than that they resemble town-halls and palaces more than a customs house.

## THE TITE PRIZE.

Mr. Drysdale, the winner of the Soane, is also the winner here, and he is to be congratulated most heartily on his double success. The subject, "An Open-air Theatre by a River," is a most charming and attractive one, and has brought out many excellent designs. Mr. Drysdale has a wonderful set of drawings, showing great power of draughtsmanship, his half-inch details especially with figure grouping being most admirably drawn. He has arranged his building on a wedge shaped plateau, rapidly descending to the stream—a plan, of course, that has been governed by the nature of the site—but on considering it as a whole, the composition of the entrance block at the upper end seems to overpower the lower or stage portion, though probably this may be due to the perspective drawing. The whole design is brilliantly conceived and well worthy the prize.

Mr. Anthony Barker carries off a Medal of Merit and ten guineas with a fine conception, having a great colonnade surrounding both theatre and forecourt. This tends rather to overwhelm the centre part, which seems somewhat dwarfed in consequence.

An Hon. Mention is awarded to Mr. T. L. Vesper, who has a good scheme, shown with admirable drawings. The large flights of steps from the ends of the main entrance corridor seem rather unnecessary, and I feel that the stage, auditorium, and gardens on either side are better designed than the entrance block, which hardly seems proportionate with them. The semicircular screen behind the stage is most charming, and admirably shown in the perspective view.

Mr. Alan Binning also gains an Hon. Mention with a picturesque plan and elevation. The wings on either side of the entrance block might with advantage be omitted, and the colonnaded screen at the back of the stage is too large in scale and dwarfs the auditorium.

"Tight" submits an immense conception: the towers carried up over the dressing-room wings on either side of the stage are overwhelming, and the whole effect is that of a massive and monumental edifice, which is not compatible with a building of this nature.

The picturesque building shown by "C Minor" has many good points, but he has missed one of the most charming effects by carrying a solid wall across the lower part of the stage at the back, and thus shutting out the vista of the river behind it.

"Mafie" has a building uncompromisingly severe in treatment, with a strong cornice carried entirely around it; but it misses the feeling of an open-air building, and seems merely to have had the roof lifted off.

## THE GRISELL PRIZE.

Mr. A. H. Markham, who wins the Grissell Prize, sends a dignified and simple scheme, admirably illustrated and carefully worked out. He has arranged a central staircase shaft, with four detached piers tied in below the circular water-tank, with a gallery above surrounding a cupola, the whole composition being most praiseworthy. There is no mistaking the utilitarian purpose of Mr. Markham's design, and though it might be possible to criticise some of the details, yet it is a thoroughly successful effort. "Delta" sends a strong design, lacking somewhat in grace in its uncompromising severity, and surmounted by a dome which seems somewhat out of place. The design, again, by "Stet," is too cast-iron-looking in treatment, and with its network of uprights and cross-braces is suggestive of a gasometer.

"Water Mark," on the other hand, entirely conceals the construction of his design by enclosing it in a massive square tower, which gives no clue to the octagonal plan within. "77" has a design of which the initial idea is somewhat similar to Mr. Markham's; but it is not worked out with the same skill, and it has, moreover, a fatal touch of *l'art nouveau* which seems singularly out of place in a structure of this sort.

## THE GODWIN BURSARY.

The Godwin Medal and £65 have this year been awarded to Mr. A. H. Verstage. Three applications were received, and Mr. Allan ran very close to winning the prize. Mr. Verstage proposes to visit Paris for the purpose of studying some of the modern examples of building, especially where the employment of steel has influenced the planning, construction, and design.

## THE ARTHUR CATES PRIZE.

I am sorry to see that only one competitor has entered for the Arthur Cates Prize. Considering that this is one of the valuable prizes offered by the Institute, it really is a matter of regret that there should be so little competition. Mr. Bryan Watson, to whom the £40 has been awarded, sends an excellent series of varied designs and drawings, amongst them being a measured detail of a bay of the Norwich Cloisters, with the vaulting carefully worked out. His coloured perspective of the Petit Trianon at Versailles hardly does the building justice.

## THE HENRY SAXON SNELL PRIZE.

This is the first time the Henry Saxon Snell Prize has been awarded, and it is gratifying to see such a good result. No fewer than six competitors have sent in designs. The subject was a General Hospital for 200 beds in a provincial town, and when we consider the great amount of thought and labour expended in working it out, we cannot help feeling more than satisfied with the result.

This competition in its conception allows no airy flights into the realms of fancy, but hard, matter-of-fact, up-to-date planning on strictly scientific lines, and it is very pleasant to record that the Council are unanimous in awarding the prize to Mr. W. Milburn. His design shows a broad grasp of the practical details of hospital planning, and his arrangement of the various departments and wards is evidence that he has understood the problem and exhaustively studied the subject. His drawings show technical knowledge of detail and construction, and the whole scheme is one that in execution would be easy to work and control. The elevations are full of character and well thought out, boldly treated in brick and stone.

The other designs submitted it would be impossible to mention in detail, but generally they have hardly realised the conditions, and the plans lack concentration and are scattered in arrangement. Many of the competitors show a good knowledge of hospital requirements, but a comparison with the winning set of drawings will show where they have failed in other directions.

Mr. President, Ladies, and Gentlemen, this completes my review of the students' work, and I trust they will take what I have said in the same kindly spirit in which it is meant. It must be gratifying to those who have gained the prizes to feel that they have deserved them, but at the same time the unsuccessful students need not be disheartened, for it is not all the prize-winners in early life who achieve success thereafter.

## VOTE OF THANKS FOR THE FOREGOING PAPERS.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

THE PRESIDENT, when calling upon Professor Lethaby for his Paper, mentioned that the usual practice was for the President to deliver the Annual Address to Students, and it had been his privilege to perform that duty last year. On considering the matter, however, at the opening of the current Session, he felt that in his Address last year he had rather exhausted his advice to the students, and that it would be wise and in all their interests to ask someone more in touch than he was with the forward educational movement to deliver the Address on the present occasion. He could not help taking credit to himself for a very happy inspiration in asking Professor Lethaby to fulfil a duty which would otherwise have been his.

Writing since the Meeting, the President states that he desires to express in the JOURNAL his grateful appreciation of Professor Lethaby's kindness in taking an onerous duty off his hands, and also his admiration of the brilliant and scholarly discourse with which the Professor had favoured the Institute.

Mr. REGINALD BLOMFIELD, A.R.A. [F.], asked by the President to lead the discussion on the Addresses delivered to the Meeting, said that he would propose a vote of thanks with pleasure, but to lead the discussion was quite another thing, for he felt rather bewildered with the apposite criticism they had just heard from Mr. Dawber, which rather put out of one's head the extraordinarily suggestive Paper of Professor Lethaby. He should like to say how pleased he thought every one must be that Mr. Dawber could tell them that the students had made such a good show of work this year. Mr. Dawber had made some very sound criticisms, and seemed very well pleased with the work that had been submitted. As to Professor Lethaby's Paper, it seemed to him one of the most suggestive Papers he had heard for a good many years. He should like to have had an opportunity of reading it before he was called upon to propose the vote of thanks, because it was exceedingly difficult to follow the high train of thought that Professor Lethaby had put before them. He must say that Professor Lethaby had rather surprised him in treating Greek art—he would not say as a flash in the pan, but as a sort of brilliant efflorescence in a short space of years. He thought that was not historical as a matter of fact. Professor Lethaby was a very learned man, and when he said a thing he (Mr. Blomfield) was inclined to think he was probably right; but his *prima facie* impression was, not that Professor

Lethaby was wrong, but that he had given them rather an erroneous impression, because Greek art was a very old affair indeed, and that beautiful and pure art of the time of Pericles was no sudden thing. In its prime it might have been a matter of, say, fifty years or so, but it was the result of many generations of development. Another point had occurred to him, and there, again, he felt great sympathy with Professor Lethaby—he was dealing with an abstruse range of subjects and at a high level, and it was quite impossible to cover the whole field that came into his subject—but all reference to Roman architecture or building had been omitted. To his (the speaker's) mind, Roman architecture was probably the most important legacy of antiquity, and they owed to the great Roman constructors more than they owed to anybody in the past. He rather expected from the line of country Professor Lethaby was taking that he would have said something about that; because, as far as he gathered the gist of the Paper, it was all tending up to the point that the reasonable and scientific treatment of building was the ultimate development of architecture. There was, he thought, a great deal that was very suggestive in Roman architecture that they ought to study—and he was sure that on this point Professor Lethaby agreed with him. With regard to their old and favourite question of proportions, Professor Lethaby had made some most suggestive and salutary remarks. He very rightly attacked the fetish that was made of abstract rules of proportion. As a fact those rules were *ex post facto* classifications, and the Greeks were not handicapped by any such rigid system. Where Vitruvius gave them so many diameters—where he gave them, say,  $8\frac{1}{2}$  or 9—one found at Segesta  $5\frac{1}{4}$  or 6, and there was no absolute rule on that point at all. That was a valuable bit of criticism which they all ought to bear in mind. With regard to the Professor's suggestion that the younger men should lay their heads together and see if they could not do something in the way of a step forward, he thought that one of the best things he had ever heard in that room. He did not agree with all the concluding remarks, for he did not think he would advise a student to dig and delve and make excavations, because he would be better occupied in measuring up a bit of steelwork than in grubbing about among earthworks; but he, and no doubt all his hearers, felt grateful to Professor Lethaby for this excellent suggestion that the young men should pull together in the advancement of architecture. He had

known Professor Lethaby for many years as one of their most brilliant and original thinkers, and the keynote of his life had been an intense enthusiasm for architecture. He therefore had much pleasure in proposing a vote of thanks to him.

SIR ASTON WEBB, R.A. [F.], said he seconded the vote of thanks with the greatest possible pleasure. He thought with Mr. Blomfield—Professor Blomfield perhaps he ought to say—that Professor Lethaby had always been one of their great thinkers, and there was nothing more useful amongst a working practical body of architects than to have some man who would give the time and trouble to think, and then come and give them the result in that room. Professor Lethaby had done that several times. He himself had not always quite agreed, but he was bound to say that after a time they found that what Professor Lethaby had thought to-day a great many others would think to-morrow. His Paper that evening was another of those occasions when one might not perhaps altogether agree. He (Sir Aston) was not an authority on Greek architecture and would not venture to express an opinion on Professor Lethaby's Address, but there was always a depth and originality about Professor Lethaby's suggestions which must make them all go home and think. In an Address to Students that was one of the most important things—and it would make not only the younger students think, but the older ones also. He entirely agreed as to the suggestion at the end of the Paper, and hoped that the young men would follow it up. He himself was rather a believer, not in cliques, but in coteries, in young men coming together and having meetings and talking things over amongst themselves; because, after all, it was very easy for older men to come and give advice, but they all knew that that advice was not always had regard to. To get together and talk over the problems amongst themselves, that was the vital thing that was likely to lead in the future to some

advancement in architecture, and it was to their young men that they looked to take the next step. The elders had tried, and now it was for the young men to go one better, and the way to do that was to combine and see if there was not some line on which they could work, and work with enthusiasm. During the Gothic revival there was great enthusiasm, but after that died out he thought there had been rather a lack of a rallying-point round which enthusiasm could gather, and on a suggestion like that of Professor Lethaby young men should meet and decide what they would try to do amongst themselves so that some enthusiasm might again arise. It would then be the delight of the young men to work with each other and to work with enthusiasm for some definite aim which they really sincerely thought was the right and proper thing for them to carry out for the whole of their lives. He thought they could not thank Professor Lethaby too much for his suggestion. For Mr. Guy Dawber's Paper they were also extremely obliged. It was a great encouragement to young men to have a short notice of their work. It showed at any rate that it had not been overlooked, and that it had been appreciated. They had all been immensely struck this year by the enormous amount of painstaking and beautiful work that unfortunately had to go unrewarded as regards prizes, but certainly not unrewarded as regards the result to themselves. The students must have had a great deal of pleasure in doing it, and their elders had looked at their work with equal pleasure. For himself he never remembered a finer year of the Pogin Competition or any other; the drawings were most beautiful; they seemed to have carried drawing to the extreme of perfection, and not only the drawing, but they seemed to have entered into the delight and the spirit of the beautiful things they had drawn. He had the greatest possible pleasure in seconding the vote of thanks.



9, CONDUIT STREET, LONDON, W., 8th February 1908.

## CHRONICLE.

### The President's "At Home."

Some two hundred and fifty members in all parts of the country accepted the President's invitation and were present at the "At Home" held at the Institute on Monday the 27th ult. On the walls of the rooms were hung the premiated drawings in the competitions for the current year's Prizes and Studentships. Seen apart from the crowded collection at the Alpine Club Galleries the drawings made an effective and interesting display, and the opportunity of viewing them at leisure under the happy conditions of the evening was manifestly appreciated.

### The Prizes and Studentships 1908.

The Annual Exhibition of Drawings submitted in competition for the Prizes and Studentships in the gift of the Institute closed on Saturday the 1st inst. During the twelve days it was open to the public, the exhibition was visited by over sixteen hundred persons, a very considerable advance on any previous year. The Prizes were distributed by the President at the Meeting of the 8rd inst., when members were afforded the opportunity of inspecting the admirable work resulting from the tours of Mr. C. Gascoyne [*Owen Jones Student 1906*] and Mr. A. J. Margetson [*Pugin Student 1907*].

The Institute Silver Medal for Measured Drawings awarded this year was the first struck from the design recently presented to the Institute by Mr. George Frampton, R.A. [*H.A.*], and the President in handing it to the winner congratulated him on becoming the possessor of so beautiful a work of art. A photographic reproduction of the Medal was given in the JOURNAL for 9th November last.

With reference to the award of a Certificate of Hon. Mention and Five Guineas for the measured drawings of Cobham Hall, Kent, submitted under the motto "Cantii" [see Award, p. 205], which were afterwards found to be the joint production of two competitors, Messrs. Robert Tall and Thorold Bennett, the Council have decided to award a Cer-

tificate to each of the competitors and to divide the money prize between them. The Council, however, desire it to be understood that their concession on this occasion must not be taken as a precedent. In future competitions for the Institute Prizes joint work submitted under a single motto in this way will disqualify the authors altogether. This rule is to be incorporated in the Conditions published in the Prizes pamphlet.

### The New Secretary R.I.B.A.

At the General Meeting last Monday the President announced that the Council had appointed Mr. G. Inn MacAlister, B.A. Oxon., to the post of Secretary of the Institute, vacant through the resignation of Mr. W. J. Locke.

For the information of members it may be mentioned that, in response to the advertisement which appeared in the leading newspapers and architectural journals, applications for the post were received to the number of 123. The task of selection was referred to a committee of the Council, assisted by two Past Presidents, Sir Aston Webb, R.A., and Mr. John Bebie, A.R.A. After holding four meetings and interviewing several of the candidates, Mr. MacAlister was finally chosen, and the selection was unanimously approved at a full meeting of the Council on the 3rd inst.

Mr. MacAlister, who was an Exhibitioner in Modern History of Merion College, Oxford, graduated with honours in Classics and Literae Humaniores in 1901. After leaving Oxford he served for two years as Secretary and Aide-de-Camp on the staff of Major-General the Earl of Dunsford during his command of the Canadian Forces. Since his return to England he has been engaged in literary and journalistic work.

The new Secretary is to enter upon his duties immediately.

### Design for the New County Hall.

The Establishment Committee of the London County Council report that the three Assessors appointed to act in the final stage of the competition for designs for the New County Hall have submitted their report on the result. They state that the twenty-three designs submitted by competitors in the final stage were illustrated by 346 drawings, and they have unanimously selected the design submitted by Mr. Ralph Knott. "This," says the report, "is a forcible and artistic suggestion which conveys to us the purpose for which it is to be erected, and is almost entirely without costly and unnecessary features; moreover, we are of opinion that the estimated cost is a fair one, and that the building could probably be erected within the sum named in instruction No. 34. While making this award we wish to record our opinion that the great projection of the centre portion of the river front requires modification,

and that the fine flight of steps into the river beyond the face of the Embankment wall, described as 'undesirable' in the replies to competitors' questions, should be omitted, as, indeed, the author in his report himself suggests. There are other points in the plan that require modification, but the brilliant qualities of the design far outweigh, in our opinion, these and other comparatively unimportant defects."

The drawings will be open to public inspection during the week commencing 7th February, between the hours of 10 a.m. and 8 p.m.

Mr. Ralph Knott was educated at the City of London School, served his articles with Messrs. Wood & Ainslie, and was afterwards assistant in the office of Sir Aston Webb, R.A.

#### Architects and the Prevention of Corruption Act 1906 : Counsel's Opinion.

The following questions on points affecting architects in relation to the Corrupt Practices Act 1906 were formulated by a firm of solicitors acting under the instructions of Mr. J. Alfred Gotch [F.R.I.C.], of Kettering, and were submitted by the Council of the Institute for the opinion of Mr. W. O. Danckwerts, K.C. Mr. Gotch states that his aim was to have the case presented mainly from the point of view of the country architect. The learned Counsel's opinion, which bears date the 12th July 1907, is appended below printed in italics.

QUESTION 1.—Does an Architect by acting also as Quantity Surveyor, and being paid by the Contractor as stated in the summary without having informed the Building Owner, render himself liable to prosecution under the Prevention of Corruption Act 1906?

ANSWER.—*He does not. In order that an offence may be committed the thing must be done corruptly, and merely doing honestly what is indicated by the question is not corrupt.*

QUESTION 2.—Does an Architect, acting also as Quantity Surveyor, who puts into the Bill of Quantities without informing the Building Owner a sum of money to be paid to him by the Contractor for printers' and lithographers' charges for printing the Bill of Quantities render himself liable to prosecution under the Act?

ANSWER.—*The same answer applies to this Question as to Question 1.*

QUESTION 3.—Does an Architect, acting also as Quantity Surveyor, by charging remuneration for revising the Bill of Quantities where there is a variation in the works without informing the Building Owner render himself liable under the Act?

ANSWER.—*The same answer applies to this Question as to Question 1.*

QUESTION 4.—Does an Architect who puts in the Bill of Quantities a sum of money to be paid to him by the Contractor for copies of Drawings other than the first set without informing the Building Owner render himself similarly liable?

ANSWER.—*The answer applies here also. But I should point out that under the forms herewith the cost of these should be borne by the Builder.*

*In my opinion the system of charging the Employer through the Builder for Bills of Quantities is not a commendable one, because it is calculated to mislead the Employer if not to conceal the fact of payment from him. The better practice would be for the Architect to get his pay direct from the Employer.*

#### Eighth International Congress of Architects, Vienna.

The Programme of the Congress to be held in Vienna from the 18th to the 24th May next, under the auspices of the Austrian Committee and the leading architectural societies in Vienna, has been received, and steps are being taken by the Institute for the distribution of copies among the architects of the United Kingdom. The organisation and general arrangements are much on the lines of the London meeting of the Congress in 1906. The subscription for members is 25 kronen (a krona being equivalent to about a franc); for lady members, 15 kronen.

Members of the Congress are invited to the official opening in the Imperial and Royal Castle, to the fête given by the Imperial Court, to the municipal reception at the Town Hall, to the "rout" at the Künstlerhaus, and to the evening banquet at the Kahlenberg to be given by the Austrian Society of Civil Engineers and Architects; also to the official opening of the International Architectural Exhibition. Members will have the right of attending the various visits and excursions and the farewell banquet on payment of the necessary charges.

The following subjects will be submitted for deliberation:—

1. Regulation of the Cultivation of Art by the State. The Executive Committee propose to move "That State Administrations should be urgently requested to establish special Secretaries of State, or at least suitable Departments, for the Fine Arts. Prominent artists should be associated with these Secretaries or Departments. As architecture must be regarded as the leader of the Fine Arts, architects should be represented on these bodies in the majority. The duty of the Secretaries or Departments should be the promotion and care of the Fine Arts in every branch."

2. Architectural Copyright and the Ownership of Drawings.

3. Regulation of International Architectural

Competitions. The Permanent Committee will present a Report on this subject.

4. Legal Qualifications and Government Certifying of Architects.

5. Conservation of Public Architectural Monuments.

6. Concerning Reinforced Concrete Buildings.

The Executive Committee invite written expressions of opinion with regard to the resolution concerning Subject I.—either short communications indicating acquiescence or more detailed Papers—by the 15th March at latest. At the first principal meeting of the Congress the result of these opinions will be brought forward and discussed.

A referee is to be appointed for each of the remaining subjects with a view to presenting to the Congress a uniform digest of the Papers sent in.

The following lectures will be delivered:—

1. The Influence of Modern Art in the Sphere of Architecture, by Karl König.

2. The Influence of the Historic Styles of Architecture on the Development of New Styles, by Leopold Bauer.

3. The Building Laws of Berlin, London, Paris, Rome, and Vienna, and their influence on the architectural form of dwelling-houses and the appearance of the city, by Karl Mayreder.

4. The Photometric Survey of Architectural Monuments, by Dr. A. Meydenbauer.

5. The Architect's Copyright in his Designs, by Dr. Sándor Erös.

6. Town Planning in Germany in the Middle Ages and at the Present Time, by Bodo Ebhardt.

Papers submitted to the Congress must be in either German, English, French, or Italian. The abstracts will be given in all four languages.

An International Architectural Exhibition will be opened in the "Gartenbau-Gesellschaft" in the city, and will be accessible to the public for four weeks from the opening of the Congress. Members will have the right of free admission.

The President of the Congress is Herr Otto Wagner, and the Secretary Herr F. F. von Krauss, of Eschenbachgasse 9, Vienna I.

#### Crosby Hall.

At the meeting of the London County Council last Tuesday the Local Government Committee reported at length the circumstances which had led to the abandonment of the scheme for the preservation of Crosby Hall, and recommended that the reference to the Committee to deal with the matter should be discharged.

Sir J. Benn, M.P., thought the Council might well pause to shed one tear over Crosby Hall. The Council had done their little best—not much, perhaps—but that little had been unsuccessful. He moved to add to the recommendation an expression of the Council's regret that the City Companies

had not taken measures to save from destruction such an historic monument as Crosby Hall.

Mr. Stuart Sankey said that some people thought that Crosby Hall was not a building on which a very large sum of money should be spent. It had constantly been modernised, and a portion of it was affected with dry-rot. If the Council had voted a large sum of money for preserving it they would be met with the cry that they were taking it out of the mouths of starving children. Unjust remarks had been made about the City Companies, who had out of their funds contributed most liberally to the preservation fund.

Sir R. M. Beachcroft thought the City Companies could do, and did, more good with their money in the direction of education than in preserving ancient buildings.

Colonel Probyn was of opinion that they might yet consider a scheme for moving this ancient hall to some other site, and making it a permanent museum, after the style of the Cluny Museum in Paris. There was a good illustration of this in London since Hyde Park Corner was actually to be transported from one side of the street to the other.

Mr. Ernest Gray (Chairman of the Committee) declared that all concerned had exhausted every effort to save this hall. He could hardly see why the City Companies should be made the scapegoat in this matter. If the mover of the amendment would substitute for "City Companies" the word "Government" he would be prepared to support it. The Government had both the power and the money to deal with this subject, and there was no reason why this building should not have been preserved as a national monument.

On a division the amendment was rejected by 72 votes to 38. The recommendation of the Committee was then adopted.

#### Vanishing London.

To the Editor JOURNAL R.I.B.A.,

SIR,—The wide interest which has been displayed in the fate of Crosby Hall makes the present a fitting occasion to bring once more before the London public the crying need for a full and comprehensive record of the historic buildings which still exist within and around our great city. The undersigned, members and supporters of the Committee for the Survey of the Memorials of Greater London, therefore, on behalf of the general body of the Committee's members and well-wishers, desire to make an earnest appeal for assistance in their work.

The Committee's work is well known. During thirteen years there has been collected a large mass of material, mainly by the voluntary work of members, and from this have been prepared seven valuable monographs on such buildings as the Trinity Hospital, Mile End; the churches of

Stratford-le-Bow and Stepney; Bromley Palace; the Great House, Leyton, &c., besides the surveys of the complete parishes of Bromley-by-Bow and Chelsea, the latter of which is in active preparation.

The historical value of these monographs cannot be over-estimated, since they not only present a carefully verified account of the persons and incidents connected with the past existence of each building, but give also a complete architectural record of the fabric itself by means of elaborate drawings and photographs. During the whole period of the movement in favour of the preservation of Crosby Hall the Committee have been pursuing this most important work in regard to this building, and the public may expect this month to be in possession of the result of their labours in the form of their ninth monograph.

The voluntary work of the "active" section has enabled the Committee to publish these volumes in an expensive and tasteful form, befitting their character as permanent records, and yet to offer them to the public at a comparatively low price. It is clear, however, that these gratuitous services must be seconded by the practical support of a larger roll of subscribing members than has hitherto been available. The Committee therefore confidently appeal to the public to join their ranks and to participate in the preparation of a work which shall be worthy of London.

The Committee, in issuing now the complete monograph on Crosby Hall, which is illustrated by reproductions of old prints and a splendid series of modern drawings of the Hall, only just completed, wish to call attention to the fact that copies of any publications issued by them are presented first to all their members.

Persons wishing either to subscribe to this particular monograph or to become regular supporters of the Committee are requested to communicate with the secretary, Mr. Percy Lovell, Parliament Chambers, Great Smith Street, S.W.—We are, yours obediently,

RIPON.	W. D. CAROE.
MARY C. LOVELACE.	WALTER CRANE.
MONKSWELL.	W. J. HANDY.
CURZON.	PHILIP NORMAN.
BALCARRES.	

The late E. L. Galizia F.R.S.

Emmanuel Lewis Galizia, M.Inst.C.E., Kt. Medj., Kt. of St. Gregory the Great, who died on the 6th May last in his seventy-sixth year, was elected Fellow of the Institute in 1888. He joined the Civil Service of Malta in the Public Works Department in 1846, and received various promotions, until he was created the first Superintendent of Public Works with a seat on the Executive and Legislative Council of the Government.

Besides various engineering works comprising the Grand Harbour extension, he carried out several architectural works, notably the "Addolorata Cemetery," built in the Gothic style. He planned and carried out the Mahomedan Cemetery, for which the late Sultan Abdul Aziz created him Kt. Medj. Several churches in the island were built from his designs, and in consideration of his work in this direction Pope Leo XIII. conferred upon him the honour of knighthood of St. Gregory the Great. His last work was the Technical Institute—built in the classic style—near Valletta.

During his period of service he carried out a complete survey and made a set of record and descriptive plans of all Government property in Malta. He was on two occasions commissioned by the Imperial Government to visit Cyprus, soon after the British occupation, to report on its possible colonisation. He was a member of the University board for examination of candidates for the profession of architects, Consulting Engineer to the Medical Board, and President of the local commission for the Colonial and Indian Exhibition in 1886.

Valletta, Malta.

G. H. GALIZIA.

#### Some Grinling Gibbons Carving.

At the General Meeting last Monday the President directed the attention of members to a very fine piece of carving by Grinling Gibbons hanging over the screen in the Meeting-room, which has been very kindly lent to the Institute by the owner, Mr. George Hubbard, F.S.A. [F.]. This admirable specimen of the great master's work represents the arms of Winchester College, and it formed part of the beautiful panelling which used to decorate the chancel of Winchester College Chapel. The piece itself is represented below, and by the courtesy of Mr. Hubbard we are able to illustrate some other parts of the work.

In a letter addressed to the Editor Mr. Hubbard says:—

"The carving at Winchester College was executed by Grinling Gibbons in the year 1660. Perhaps a few words in connection with this interesting work may be acceptable. I quote from a letter in my possession dated 15th February 1898, written by the Bishop of Southwark to Lord Heytesbury, in which the Bishop says the following is its history:—

"During the great revolution the College Chapel was much mutilated, but on the Restoration its panelled work was erected in severe taste, but by the best procurable workmanship, and there it remained the glory of the place until the Gothic craze possessed the authorities and it was turned out about 1865 and passed into my hands."

"Prior to its removal the chancel of the chapel was richly panelled with an abundance of Grinling Gibbons carving. The east end was further



GRINLING GIBBONS' CARVING: ARMS OF WINCHESTER COLLEGE, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.

The original position of the arms is shown in the illustration opposite.

\* Lent by the owner, Mr. George Hubbard, F.R.A. [F.], to the Institute, and now on view in the Library.

decorated by four three-quarter pillars with Ionic caps with swags, and between the pillars was a picture of the Annunciation by Lemoine.

"It was an unfortunate period in the history of architecture when the Gothic revival was in vogue and the beauty of Renaissance work was not appreciated. The action of our predecessors must not be judged too hardly by present-day standards; but it is a matter of extreme regret that all this lovely carving by the master hand of Grinling Gibbons should have been discarded by Mr. Butterfield and the Governors of Winchester College in the year 1865.

"In 1898 the late Lord Heytesbury saw the carving and purchased it from the Bishop. Lord Heytesbury had it removed to Heytesbury in Wiltshire, where it was stored in his laundry, and it was from this quarter that my partner Mr. Albert W. Moore and I rescued it. The bulk of the carving now adorns Sir George Cooper's house at Hurstley, near Winchester. The Arms of Winchester

College were not, however, acquired by Sir G. Cooper; undoubtedly their ultimate resting place should be in the chapel of Winchester College.

"The illustration of one of the panels in the screen across the ante-chapel is perhaps one of the finest designs ever conceived and executed, and students would do well to examine the harmony of all the lines in its composition. A study of this will appeal to every artistic nature, and it puts to shame the sad and sickly lines which are the foundations of *l'art nouveau*. In the floral swags and drops Grinling Gibbons appears to have been satisfied by faithfully copying nature without attempting to add or deduct from it; he grouped his floral subjects and reproduced them in their natural size.

"The charm of this work is enhanced by the fact that it appears never to have been oiled or stained, and like all old oak work it has a silvery, ashy greyiness in its old age, and not a blackened surface which is usually assumed."



A PORTION OF THE ANTE-CHAPEL DOORS, CARVED BY CHRISTIAN GIBBONS, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.



ONE OF SIX PANELS, BY CHRISTIE GIBBONS, FORMERLY IN THE ANTI-CHAMBER SCREEN OF THE CHAPEL OF WINCHESTER COLLEGE.



UPPER WALL PANEL SHOWING CHRISTIAN GILBERT'S CARVING, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.



HEAD CAPITAL OF ONE OF THE THREE-QUARTER COLUMNS, FORMERLY AT THE EAST END OF THE CHAPEL OF WINCHESTER COLLEGE. CARVED BY GRISTLING GIBBONS.



GRISTLING GIBBONS' CARVING, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.

### The Proposed Diploma in Architecture at Cambridge.

*The Times* of the 27th ult. published the following communication from Mr. T. G. Jackson, R.A., representative of the Royal Academy on the Board of Architectural Education, Mr. Reginald Blomfield, A.R.A., one of the Secretaries, and Mr. Basil Champneys, Vice-Chairman of the Board:—

The *Cambridge University Reporter* of 10th December 1907 gives the report of the syndicate appointed in June 1907 to consider the desirability of instituting in the University a diploma in architecture. The report will somewhat surprise those who are familiar with the theory and practice of the art of architecture. After a preliminary reference to existing provisions for architectural training, the report goes on to state that the education of architects in this country is in an unsatisfactory condition, that the principle of apprenticeship is on the wane, and that "a sound general education on liberal lines is the greatest desideratum, supplemented by special instruction in the principles of construction, in history, and in art."

Of these three statements the first two are open to very grave question. The training of architects in this country has been reorganised in the last few years by architects themselves, and so far from the principle of apprenticeship being on the wane, it is recognised by all architects as an essential part of an architect's training, following on his two years' preliminary course in the technical school. But the vital issue lies in the third statement, that "a sound general education on liberal lines is the greatest desideratum." We cordially welcome this statement of a very important principle; but the syndicate has no sooner laid it down in very handsome terms than it incontinently turns its back on it. On examining the proposed scheme, we find that this special examination for the ordinary B.A. degree is to be in two parts. Part I. is purely technical (practical mathematics, applied mechanics, strength of materials, descriptive geometry, surveying); and Part II. is to consist of the history of architecture of Europe and the Near East, outlines of the general history of art, architecture, and the allied arts, subjects for an essay on a selected period, and the theory of art in relation to architectural design. The "sound general education on liberal lines" has simply disappeared; and as to the merits of the scheme as a course of special training, we would submit that it has all the defects and none of the advantages of the older system of architectural training which architects have themselves found it necessary to reorganise. It has not the advantage of the system of simple apprenticeship, which at any rate brought the student into touch with actual work under the supervision of professional architects; it has its defects, in that it relies on the venerable and much misapplied definition of architecture as a science and an art, and emphasises the cleavage by a rigid separation into applied science on the one hand and history on the other. All these elements, applied science, history, and archaeology, enter into architecture, but they are not architecture. The syndicate appears to have overlooked the fact that architecture is, after all, the art of design, under severely limited conditions; that it has its own peculiar technique, just as the arts of painting and sculpture have theirs, and that though it is very necessary for an architect to possess scientific knowledge of materials and of the laws that govern their use, the knowledge so acquired does not make him an architect. The quality

of the architect, that which differentiates him from the engineer or from the professor of mechanics, is the imaginative use to which he puts his knowledge as an artist in pure form.

In our opinion (and we offer it as Oxford and Cambridge men and architects in practice) the proposed school will not answer the expectations of its advocates for the following reasons.

The difficulty which architects have to contend with in the training of their pupils is not the absence of preliminary technical training. Pupils can obtain this in the technical schools. The real difficulty lies in the fact that pupils, owing to their imperfect general education, do not know how to learn. Their faculties are not educated to the fine point which enables a well-equipped mind to seize at once on the essential points of a subject. The result is that students who have been so educated at school and college will catch up and pass pupils who have left school early in order to start at once on their special training. Architects of experience prefer a pupil with a good general education and no special training to a pupil with special training but imperfect education; and we suggest that, in substituting special training for a liberal education, the University will not meet an educational want, but will greatly complicate the educational problem in relation to the professions by entailing that "sound general education on liberal lines" which the syndicate itself admits to be "the greatest desideratum."

Architects have themselves been revising their methods of training, and the whole gist of such reforms as have been accomplished lies in the directly practical bias of the training given. The instructors are architects in practice, and the training is supplemented by practical demonstrations in workshops and buildings in the process of erection. How is this to be done in the University? It can hardly provide the facilities for such training which exist in great cities, such as London, Liverpool, Manchester, or Birmingham, where the elaborate apparatus required is at hand and important buildings are constantly in progress.

It appears that the training proposed at Cambridge will be given by professors who will probably not be architects. Without the least desire to disparage their capacity, we would point out that, by the nature of the case, the training given in architecture will almost inevitably be amateur training. Surely this country, as compared, let us say, with France, has suffered too long from the views of the amateur on architecture. We cannot help feeling that, for purposes of training in the practice of architecture, the value of the proposed school at Cambridge will amount to nothing at all.

As to the utilitarian aspect of this scheme—that is, its likelihood of providing immediate employment for those who have passed its school—we submit that architects, after all, will have the principal voice in the training of their students; and we submit that architects will require some more practical and thorough training in the technique of architecture before they will be prepared to offer paid employment. If this is so, an important reason for the establishment of the school falls to the ground. Parents and guardians will not find it any easier than before to obtain employment for the young men who have entailed their education in order to anticipate their special training. The short cut will end in a *cul de sac*.

Lastly, we deprecate the proposed school not less in the interests of the Universities than of our own art. The proper function of a University, as we conceive

it, and the ideal, at all events till lately, pursued at Oxford and Cambridge, is to supply an education which will enable its graduates to approach their practical work in life from a higher standpoint, with a firmer grasp of its possibilities, and a clearer vision of its relations to life as a whole. So far, this tradition of education has worked with admirable success in English life. Professional men are not found to have lost in capacity and integrity by reason of their having received a liberal education. But even if it were not so, even if a liberal education handicapped a man in the race for wealth, we should still maintain that the advantages of such an education are, in themselves, its sufficient justification. Immediate success is not the sole and only aim of mental training, and it would be a matter of deep regret if there should be any ground for supposing that our older Universities so regarded it.

## REVIEWS.

### HOW TO ESTIMATE.

*How to Estimate: being the Analysis of Builders' Prices, &c.* By John T. Rea, F.S.I., Surveyor to the War Department. Third Edition, revised and enlarged. 80. Lond., 1908. Price 7s. 6d. net. [H. T. Batsford, 94 High Holborn, W.C.]

This book, by Mr. J. T. Rea, which has reached a third edition, appeared originally as articles in the *Building News*. In the present edition much has been added, as one would expect, on the latest science, electricity, among other things showing how considerably contractors can save by using electric instead of steam power. This, like all other "costs," must, however, depend on locality and other conditions. "Thatcher" has also been added to the other trades, and the contents generally extended by some thirty pages.

The author does well to remind his readers that "there are no fixed standard prices . . . rates must always be built up in a natural way, according to the variable local conditions." And, further, "what may be right this week may be wrong next, owing to a sudden change in the market."

The statement that "prices of most building materials have gone up 20 to 30 per cent. in the last few years, chiefly through 'rings' and 'corners' creating artificial values," might be easily and successfully disputed. We have watched attempts at such corners lately—or rather their results—with some amusement. Copper, for instance, is quoted in this book as "£118 per ton for sheathing." To-day (22nd January) the market price is: "Tough and best selected, £68 to £68 10s.; strong sheets, £80."

Under "Actual Cost of Buildings," either in "per cube foot" or "per unit," the cost of buildings erected in 1876, 1888, 1893, or 1898 cannot be very useful except as curiosities. Except as history, the fact that Pentonville Prison cost, in 1840-42, £162 per cell is useless. Yet this is the only "prison" given. The latest "hospital" priced is 1908.

The index, as usual in books specially intended for reference, is sadly insufficient. For instance,

if one wanted information about pedestal w.c.'s one would naturally turn to *Ped.* or of valve w.c.'s to *Val.* or of flushing cisterns to *Flu.* But in all these cases one would do it to no purpose. If one wanted a G.I. cylinder one would seek it in vain in the index, although one would find cylinder-copper there. But to one copper cylinder probably a thousand galvanised ones are used. Where so much good work has been done by the author, it is a pity that access to it is not made as easy as possible.

C. H. BRODIE.

## MINUTES. VIII.

At the Seventh General Meeting (Ordinary) of the Session 1907-08, held Monday, 3rd February 1908, at 8 p.m.—Present: Mr. Thomas E. Colcutt, *President*, in the Chair, 39 Fellows (including 12 members of the Council), 45 Associates (including 12 members of the Council), and numerous visitors—the Minutes of the Meeting held 20th January 1908 [p. 212] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President, viz. Edwin Arthur Johnson, *Fellow*; Leonard William Edmonds, Henry Charles Brown, John Clifford Procter, Frederick Milton Harvey, and Leslie Wilkinson, *Associates*.

Mr. Edwin T. Hall, *Vice-President*, acting for the Hon. Secretary, absent through illness, announced the decease of John Barnes Colson, of Winchester, *Fellow*, elected 1892, and Emmanuel Lewis Galizia, of Malta, *Fellow*, elected 1888.

The President announced that the Council had appointed Mr. G. Ian MacAlister, B.A. Oxon., to the vacant Secretaryship.

The President announced that the Council proposed to submit to His Majesty the King the name of M. Honoré Daumet, Membre de l'Institut de France [*Hon. Corr. M. Paris*], as a fit recipient of the Royal Gold Medal 1908.

The President drew attention to a piece of Grintling Gibbons' carving hung in the Meeting-room, which had been kindly lent to the Institute by Mr. George Hubbard, F.S.A. [E].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election:—As FELLOWS (10): Henry Martineau Fletcher, M.A. Cantab.; Laurence Kirkpatrick Hall; Edward Mansell (Birmingham); Godfrey Pinkerton; Charles Henry Bourne Quennell; Winter Hargreaves Raffles; Thomas Robert Richards; William Gardner Rowan (Glasgow); Maxwell Maberly Smith, B.A. Cantab.; William B. Whittle (Glasgow). As ASSOCIATES (31): Annesley Harold Brownrigg [*Probationer* 1903, *Student* 1905]; William Thomas Clarke [*Probationer* 1901, *Student* 1904] (Liverpool); Vernon Constable [*Probationer* 1902, *Student* 1904] (Glasgow); Henry Ralph Crabb, Assoc. M.Inst.C.E. [*Probationer* 1901, *Student* 1901] (Birmingham); Joseph Berkeley Cubey [*Probationer* 1900, *Student* 1904] (c/o A. B. Plummer, Esq., Newcastle-upon-Tyne); Frank Donaldson [*Probationer* 1904, *Student* 1905] (Bishop Auckland); James Westbrook Farmer [*Probationer* 1899, *Student* 1903]; George Harry Bertram Gould [*Probationer* 1900, *Student* 1904] (Ipswich); Peter Kydd Hanton [*Probationer* 1905, *Student* 1906]; Edward Harold Waldegrave Harlock [*Special Examination*]; John Anstie Harrison [*Special Examination*] (Liverpool); Alfred John Healey [*Probationer* 1900, *Student* 1904]; Henry Leicester Hicks [*Probationer* 1902, *Student* 1905] (Newcastle-upon-Tyne); Francis

\* The candidates for Associateship passed the Qualifying Examination in either June or November of last year.

Henry Jones [*Special Examination*] (Buenos Aires); Allan Scott Millar [*Probationer* 1898, *Student* 1902]; Charles Percy Moss [*Probationer* 1897, *Student* 1901]; Stuart Mill Mould [*Probationer* 1894, *Student* 1897] (Newcastle-on-Tyne); Arnold Pearson [*Probationer* 1901, *Student* 1903]; Cecil Ross Pinsent [*Probationer* 1901, *Student* 1903]; Archibald Parsglove [*Probationer* 1901, *Student* 1904] (Manchester); Walter Adolphus Ritchie-Fallon [*Probationer* 1906, *Student* 1907]; Max Edward Stahl [*Probationer* 1903, *Student* 1904] (Weston-super-Mare); Leo Sylvester Sullivan [*Probationer* 1898, *Student* 1903]; Joseph Henry Taylor [*Probationer* 1899, *Student* 1901]; Gilbert Mackenzie Trench [*Probationer* 1901, *Student* 1904]; Cecil Trevillick [*Special Examination*] (Auckland, N.Z.); Percy Francis Warren [*Probationer* 1901, *Student* 1904] (Wrexham); Rowland Welch [*Special Examination*]; Gerald Berkeley Wills [*Probationer* 1902, *Student* 1905]; Charles Woodward [*Probationer* 1897, *Student* 1899]; Edward Lancelot Wren [*Probationer* 1901, *Student* 1904]. As HON. ASSOCIATES (2): Thomas Brock, B.A.; William John Locke, B.A. Cantab.

Professor W. H. Lethaby [F.] delivered an Address to Students on THE THEORY OF GREEK ARCHITECTURE.

Mr. E. Guy Dawber [F.] delivered a CRITICISM OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1908.

A vote of thanks to the authors of the Papers, moved by Mr. Reginald Blomfield, A.R.A. [F.], and seconded by Sir Aston Webb, R.A. [F.], was passed by acclamation.

The Presentation of Prizes was made by the President in accordance with the Deed of Award, and the Travelling Students present were introduced, as follows:—

#### INSTITUTE ESSAY MEDAL.

Medal of Merit to Mr. Percy Montague Stratton [A.].  
Certificate of Hon. Mention to Mr. Henry H. Hill.

#### INSTITUTE MEASURED DRAWINGS MEDAL.

Measured Drawings Medal and cheque for £10. 10s. to Mr. Leslie Wilkinson [A.].  
Certificate of Hon. Mention to Mr. Maurice Lyon.

#### SOME MEDALLION.

Some Medallion and cheque for £50 (1st moiety) to Mr. George Drysdale.  
Certificate of Hon. Mention and cheque for £5. 5s. to Mr. Adrian Berrington.  
Certificate of Hon. Mention and cheque for £5. 5s. to Mr. Robert Russell Prentice.

#### OWEN JONES STUDENTSHIP.

Owen Jones Certificate to Mr. A. E. Martin.

#### PEGIN STUDENTSHIP.

Mr. Sidney G. Follett introduced as successful Student.  
Cheque for £10. 10s. to Mr. A. Winter Rose.  
Certificate of Hon. Mention to Mr. N. W. Hadwen.

#### GOLDWIN BURSARY.

Mr. A. Halcrow Verstage [A.] introduced as successful Candidate.

#### TITE PRIZE.

Tite Certificate and cheque for £20 (1st instalment) to Mr. George Drysdale.  
Medal of Merit and cheque for £10. 10s. to Mr. Anthony R. Barker.  
Certificate of Hon. Mention to Mr. T. L. Vesper.  
Certificate of Hon. Mention to Mr. Alan Blinning.

#### ARTHUR CARR PRIZE.

Cheque for £42 to Mr. Bryan Watson [A.].

#### GRISSELL PRIZE.

Grisell Gold Medal and cheque for £10. 10s. to Mr. John H. Markham [A.].

#### HENRY SAXON SKELL PRIZE.

Mr. W. Milburn, jun., winner of the Prize, introduced.

#### ASHFILL PRIZE.

Books value £10 to Mr. J. C. Procter.

The proceedings then closed, and the Meeting separated at 9.45 p.m.

## ARCHITECTURE AS A FINE ART.

Address to the Birmingham Architectural Association.

By J. L. BALL, President Birmingham A.A.

THOSE who were present when I last had the privilege of addressing the Association may remember that, from want of time, I was compelled to break off the line of thought which we were pursuing at the most interesting point of our inquiry. I propose to resume the subject this evening, conscious though I am that it must suffer by being presented in two separate parts divided by a long interval. For the benefit of those who were not present on the former occasion, or who may have forgotten the conclusions at which we arrived, let me briefly recapitulate.

We began by considering some of the purposes for which this Association and other Architectural Societies exist. The most obvious of these purposes, and assuredly the most important to us, is the study and cultivation of Architecture as a Fine Art. I endeavoured, at some length, to define between Architecture and the Building Arts for two reasons: first, because the difference between them is fundamental and specific, a difference not of degree but of kind; and secondly, because many critics and exponents of Architecture have fallen into the mistake of confusing it with Building. I place the Arts of Building in the category of Craft Arts, all of which employ in common the method of handicraft. I place Architecture with Music, as Mathematical Arts, and I define the method or process which Architecture employs as Proportion. We then discussed the nature of Proportion as the medium through which Architecture attains certain results, and we left for future consideration the larger and more difficult question what those results are. What then are the impressions which Architecture seeks to produce upon the mind? What is the nature of its appeal to the imagination? Has this Art any purposes peculiar to itself? Can we define any of its aims? What is its relation to Building?—to Nature? When we stand in some great cathedral are we witnessing the triumph of handicraft alone, or can we distinguish elements which must be assigned to some other cause? Such are the questions which I hope to touch upon this evening.

It will enable us more easily to glide into our subject if I begin by noticing some objections to my former address which have reached me from different quarters. These objections, however various their form, really amount to two, a metaphysical objection and a practical objection, and we will consider them in that order.

The definition given of Architecture as a Mathematical Art operating solely by the medium of proportion evidently comes to many as a chilling surprise. Is there no room in this Art, they ask, for the play of the finer qualities of imagination

and emotion? Is Architecture really only a matter of Proportions, of Ratios, of Equations? Surely there is a mistake here. Either Architecture is something more than Proportion or it is not an Art at all, or at best a calculating, an unfeeling, a mechanic, Art. Those who reason thus have failed to perceive the necessary limits of the present inquiry. I have excluded, and shall continue to exclude, from it for the sake of clearness all metaphysics, all reference to the powers of the individual mind. I am looking at the whole matter objectively, in the light of history and experience, not subjectively, as a question of the exercise of this or that form of mental energy. I am surveying the nature, the process, the purposes, of Architecture from an historical standpoint, I am not discussing the temperament of the architect. It would of course be absurd to deny that all great work in Architecture has been done by men of extraordinary intellectual and imaginative powers. But assuredly the method by which those powers have operated, the medium so to speak in which they have been displayed, has been no other than Proportion. The greatest artists who have ever devoted themselves to Architecture—Michel Angelo, Wren, the cathedral builders—have had in this respect no advantage over ordinary men. They could use no other method in Architecture than Proportion, for the very good reason that Architecture is concerned exclusively with the infinite relations of abstract Form, and the relations of abstract Form are in fact nothing else than Proportion. It is most true that the use a man will make of his method, the results which he will achieve by means of Proportion, will depend upon his character, his genius. The man of more talents will obtain better results than the man of fewer talents, though they both employ the same process; the genius will always assert his superiority over the dunce. But it is not my intention to discuss the metaphysics of the subject.

It is another aspect of the same objection when it is said that Proportion, regarded as the sole method of Architecture, is altogether inadequate to the prodigious results attained in this Art. Is it credible that these images of sublimity and beauty should have been produced by a method so simple, so elementary, so commonplace? A great mediæval cathedral affects us profoundly; assign what you will of the impression it makes to craftsmanship, to delicate or fantastic ornament, to the sculptor's art, there yet remains a grandeur poorly accounted for by so feeble a talisman as Proportion. Such an objection is no doubt very natural. But is it not an objection which would apply with equal force to any of the Arts? Do not they all achieve extraordinary results by very simple and ordinary processes? In truth this contrast between methods and results is the perennial miracle of Art. The cutting and manipulation of stone and marble, for instance, is surely no very difficult or recondite

process. Yet Polycleitus and Praxiteles needed no other to represent the symbolic effigies of the gods. Language, the use of suggestive or expressive words, is a very elementary acquirement. Yet it is by this medium, common to all mankind, that the poets express all the passions and emotions of the soul. Wordsworth and Shelley used just the same vocabulary which we use. If in place of a mediæval Cathedral we consider one of the most primitive of Architectural conceptions, the Egyptian Pyramid, we instantly perceive that the impression it conveys can be assigned to nothing else than to Proportion. An equal quantity of material disposed in another way might be utterly insignificant. The real truth is that in Architecture, as in most subjects, the great difficulty is, not to do it, but to do it well.

The practical objections are less easy to answer because they involve a reference not only to facts but also to the interpretation we put on facts. Some objectors who hold theories with which probably I have little sympathy are naturally surprised that those theories should be passed over without notice. But such persons should remember that on a subject like Architecture nobody can speak for all at once. If it had been necessary to controvert every theory of this Art which able and ingenious men have put forward you would not have had the patience to listen, nor probably should I have had the patience to speak. Others have fallen into the inexcusable mistake of supposing that I am actuated by a contempt of, or an indifference to, the Craft Arts; and that it is derogatory to regard Architecture as an Art of another kind than Building. The objection seems to me monstrous and unreasonable, and I hold, on the contrary, that it is of the utmost importance to both arts to mark precisely the difference between them. Others again profess inability to understand how one Art can be exhibited through, or in conjunction with, another and different Art, as Architecture is through or with the Building Art. Yet these same critics find no difficulty in understanding in a concert that the Art of Schubert or Beethoven is exhibited side by side with the different Art of Paderewski; or in a theatre that the Art of the Dramatic Poet is shown through the medium of the different Art of the Actor. And lastly, there are those who are unable to shake off the prepossession, popular at the moment, that Architecture is not an independent Art at all; that it is nothing more than an unpremeditated result, a something unconsciously or accidentally produced by fine Building; that it is altogether indefinite and undefinable, arising from the nature of the materials, from the necessities of convenience, from the necessities of structure, from custom and usage; that Proportion is nothing but a convention, a name for what we are accustomed to see; that utility, and in a wide sense the possibilities of construction, are the only things on which the architect ought properly to concentrate his attention. Now

if those who advocate this view put it forward as a proposal suited to our present needs, as a course of action which it may be wise for us to pursue under the peculiar circumstances of our own time, I have nothing to say. Such a proposal does not fall within the scope of a purely historical survey. But, on the other hand, if it is advanced as a statement of what has actually happened in the past, it is manifestly grotesque and incredible. The entire history of Architecture contradicts it. What evidence is there in the thirty centuries of historic Building that Architecture has been only an accidental product of utility, of material, of the necessities of structure, and the like? Even in speaking of the more primitive and elementary forms of Building, such as a farmhouse, a cottage, a barn, the statement would need serious qualification; while as applied to the greater works of Architecture, not only is there no evidence to support it, but all the evidence we have points the other way.

Material, and the necessities of structure! Is it to these causes that we are to assign the gigantic and spire-canopied towers of Salisbury and Old St. Paul's? Convenience and utility! Was it for such reasons that the vault over the choir of Beauvais was raised to a height of one hundred and fifty feet above the floor? Can anyone who knows the bare elements of the subject assert that the mediæval open-timbered roofs are the result of following the rules of carpentry and the nature of the material?—such roofs as those over the halls of Westminster, Eltham, and Hampton Court, with their simulation of arched structure, and of the tricerries, the buttresses, and the cornices of masonry. Judged as specimens of structural carpentry and of the proper use of material these roofs must be condemned as obviously wrong; judged as parts of a great Architectural idea they may well seem to need no apology.

Let us look at the facts. Let us compare a Roman building of the fourth century and a monastery of the eleventh century. Both have existed together in these islands, and of both there are remains sufficient to enable us to conjecture their original forms. Why should two such buildings be so different? The conditions of climate, of materials, and in a general sense of construction and convenience, were much the same for both. What then is the reason of the prodigious difference between these two buildings, which, so far as materials, and usages, and the necessities of construction, are concerned, we might well have expected to be very similar? My answer is that the difference between them is a difference of Architecture.

Compare a typical English cathedral of the thirteenth century with one of those great churches which rose during the same period in Northern France. Compare Salisbury with Amiens. Here we have two buildings produced at about the same time, and under exactly similar conditions; the

same materials, the same methods of construction, were used for both; both were intended for the same purpose, namely for the liturgies of the Mass. Are these two cathedrals, built under identical conditions, alike? On the contrary they are totally different. The difference between them is not a difference of purpose, or of materials, or of structural method. It is a difference of Proportion. In other words Salisbury and Amiens, while belonging to the same school of Building, belong to different schools of Architecture.

The Greek Architecture of the fifth century B.C. is familiar to everybody, and is universally celebrated for the finished excellence of its Proportions. Do we find any evidence in the remains of the famous Temples of this epoch that their justly admired Proportions were dictated by the nature of the material and by the necessities of structure? The columns of the Parthenon are six feet two inches in diameter, with a height of only thirty-four feet, and the spaces between them are little more than the diameter of a column. Are we to suppose that the Greeks did not know, or had not the intelligence to find out by simple experiment, that the Pentelic marble need not be used in so great masses? Observe that we are not speaking of a barbarous and ignorant people whose rude essays in building exhibit a vast bulk of material to atone for want of science and constructive skill. We are speaking of the Athenians of the age of Pericles, of the most polished and cultivated nation of antiquity at the supreme moment of their existence, of a people distinguished, as Matthew Arnold has finely said, by the qualities of "sense and intellect." No race of men has ever been gifted with an understanding so quick and sure, a temperament so sane and logical, as the Athenian people of that age, and their extraordinary achievements in several of the Arts, in Dramatic Poetry, for instance, and in Sculpture, remain unsurpassed after twenty-four centuries. At the time when Pericles rebuilt the Temples on the Acropolis which had been ruined in the Persian War Greek architecture had entirely passed the stage of experiment. To what conclusion, then, do we come? It would be ludicrous to suggest that Kallikrates and Ictinos did not know, as well as a modern engineer, that much smaller columns than those they actually employed would very easily support the slight superstructure of the Parthenon. To do so would be to attribute to those great men the ignorance and simplicity of an architectural student in the pupil stage. Can we doubt that the Architects of the Parthenon used columns of so large a diameter, and set them so closely together, not for reasons of structure, but for reasons of Proportion?

This argument, to anyone capable of weighing the evidence, is surely a very strong one, but it becomes much stronger when we proceed to compare the Dorian with the Ionian peristyle. The columns of the Ionic temples are of much smaller

diameter than those of the Doric, both in relation to height and in relation to the weight of the superincumbent entablature, and are separated by wider intervals. In other words, the Ionic colonnade as compared with the Doric shows a much smaller amount of material used to perform a much greater amount of work. Now if the Ionic had followed the Doric in chronological sequence, as in the Middle Ages the early Gothic followed the Norman, and if after the introduction of the Ionic method no more temples had been built in the Dorian manner, there would be some reason to suspect that the Proportions of the Greek temples were dictated merely by the exigencies, or the supposed exigencies, of construction, and that with increased science and greater familiarity with the material the later builders were enabled to carry out their purposes with more economy than the earlier. But this is not the case. The Dorian and Ionic models of Temple building were contemporaneous, not successive, and stood side by side, unaltered, throughout the whole period of Greek Art. We are therefore justified in concluding that their Proportions were fixed, not by the requirements of material or by the necessities of structure, but by very different considerations. The antique builders courted Architecture like a mistress, with lavish extravagance, and their extravagance is justified by the grand result of their Art.

We find then no reason to assign the Proportions of the Greek Temples either to the nature of the material or to the necessities of construction. Are we to attribute them to the influence of custom and tradition? Were the columns of the Parthenon and of the other Temples made so imposing merely because people had always been accustomed to see thick columns in the buildings of the archaic age? A conjecture of this kind is hardly probable of the enlightened contemporaries of Pericles, and would need to be supported by very definite evidence if it is to be received. Now of Greek architecture earlier than the fifth century B.C. we know very little that has any bearing on the subject under discussion. But we do know something. There are strong, indeed convincing, reasons to believe that the earlier Greek buildings were very generally of wood, and that buildings of masonry were comparatively rare. It is possible even in the perfect Doric Temple to trace many features which were obviously derived from a wooden prototype. But a wooden temple, however small, can hardly be imagined with the massive Proportions of the Parthenon. The nature of the material would make any approach to such Proportions impossible. Wooden construction is always, by its nature, slighter and less bulky than constructions of stone and marble. If it be admitted, then, that the prehistoric Architecture of Greece was largely a wooden architecture, it is difficult to understand how the massive Proportions of the Doric Temple can have been much influenced by custom and

tradition. Were they due to foreign influences? This is at least equally incredible in the case of the proudest and most self-sufficient people of antiquity, who despised all foreigners alike as barbarians. And when we look at the Greek peristyle as a whole does it suggest a well-fulfilled purpose of utility or convenience? If those lofty and shallow colonnades were intended to afford shelter from sun, wind, and rain, it must be admitted that they were very badly contrived for that end, and that half the height, and twice or thrice the projection, would be necessary for its adequate fulfilment.

These reflections, suggested by a cursory survey of the Greek Temple, would seem to indicate that the Proportions of these celebrated buildings are the result of premeditated Architectural design, and this conclusion is confirmed from two independent sources: first, from the buildings themselves, which, when submitted to precise measurement, reveal a system of delicately modulated Proportion; and secondly, from the scattered indications to be found in Greek Literature, slight and inconclusive perhaps, yet sufficient to show that the Greeks fully understood systematic Proportion and set a high value on it. Let us next take an instance from the mediæval world. Let us briefly consider the Gothic Architecture, as it is inexactly but conveniently called, from the twelfth century to the fifteenth. Let us analyse the proportions of the magnificent Cathedrals and Abbeys of this wonderful period, and ask ourselves whether they are to be attributed solely to the nature of the materials, to the necessities of convenience and of structure.

At the first glance the question seems to admit of but one answer. The evidence of constructive power in these great buildings is so obvious, so convincing, that it leaves no room in the mind for any other consideration. The entire structure is at once revealed, and impresses the most casual beholder as reasoned, logical, and coherent; every feature appears to be inevitable, or at least admirably contrived for a constructive purpose. To look here for calculated Proportion and Architectural design may well seem a perverted ingenuity or a love of paradox. In no buildings have the Arts of Architecture and of Building been carried to so high a degree of excellence, in none have they been so completely interfused, as in the great Gothic minsters. Nowhere has the art which conceals art been so admirably exemplified. There is an air of simplicity about the most elaborate of these buildings which imposes on us, and we only find out that they are inimitable when we try to imitate them.

The first thing that strikes us as we look at the whole course of Gothic Architecture is the number of surprising changes through which the Art ran from the twelfth to the fifteenth century. Many of these changes are evident to persons altogether unversed in archaeology; while others, though recognised without difficulty by the antiquary, require

a more attentive observation. But all, whether more or less obvious, are well-marked and decisive revolutions, and not to be explained by caprice. How are we to account for these changes, for the change from the twelfth century to the thirteenth, from the thirteenth to the fourteenth, from the fourteenth to the fifteenth? There must have been a motive for them. If we assume the mediæval builders to have been wholly taken up with questions of material, of structure, of convenience, and the rest, we must then attribute these changes to a desire for better building, for a more appropriate use of material, or a more enduring structure, or greater conveniences. Hence we shall be justified in expecting to find at each stage an improvement in the Building Arts. Do we however find any such improvement? Is it not a fact that, during the whole period under review, the Arts of Building maintained the same high and invariable level? In truth if we except small fluctuations, such as are inevitable in any widely spread Art, the standard of building excellence appears to have been remarkably uniform. A Chapel Royal of the fifteenth century is superbly built, but not more superbly built than an Abbey of the twelfth century. In a building of the twelfth century we see adaptation of material to purpose, power of structure, skill and dexterity of handicraft; and in a building of the fifteenth century we see no more, we see in fact precisely the same qualities. In the earlier example material is admirably disposed in one way, in the later it is admirably disposed in another way, but regarded as Building the one is exactly as good as the other. It is true, of course, that many extraordinary feats were performed in the later Gothic which would have been impossible in the earlier. But increased confidence and audacity are not quite the same as improved Building, and may even be incompatible with it. All through the mediæval period Building as a whole is distinguished by the same general excellence, the same skilful and scientific use of material, the same masterly instinct for structure, the same unrivalled skill of craftsmanship; and also it must be admitted that it is marked by the same defects, the same carelessness about foundations, about damp, heat, and cold, the same indifference to convenience, the same tendency to build thick walls of very inferior materials. The only improvements in the Art of Building which we can detect during this long period of about four hundred years are the general use of window glass, and the invention of fireplaces and chimneys. And window glass was introduced before the twelfth century, while fireplaces and chimneys did not become common until the sixteenth. In fact, the Building Arts in the Middle Ages, admirable though they are, show no progressive tendency; and it seems absurd therefore to attribute the marked changes which we see in the Cathedrals and Abbeys of this period to a desire for improved building, when there is no evidence that any improvement

was desired, or that any resulted, from those changes. We see material used in a succession of different ways, all equally skilful and equally suitable, with no marked advance in the direction either of economy or of convenience. If we ascribe these changes in mediæval Building to Architectural design, to the desire for more magnificent, or at least, for different, Proportions, it is easy to understand them. But we can account for them in no other way.

When we look at a compartment of a great Gothic church with its system of piers and arches, with its stone vault sustained high above the ground, with its buttresses and flying buttresses and pinnacles, we are impressed by the skilful adaptation of each part to its purpose. But to what final purpose? What were the mediæval builders doing with those great vaults poised at a height at Amiens of one hundred and forty feet, and at Beauvais of one hundred and fifty-three feet, above the floor? Were these colossal Proportions, and others only less extravagant, suggested by the nature of materials, by use or convenience, by considerations of structure? Were they not obviously part of a system of Proportion which demanded almost unlimited height? Nay, we may go farther and ask what excuse can be given for the stone vault itself? Writers on mediæval Architecture seem to take the necessity of a stone vault for granted, to assume it as a postulate. But assuredly the stone vault cannot properly be regarded as a structural necessity. It is not a roof, it is a costly stone ceiling, of great weight, and of most difficult construction. It may be said that it is fireproof, but there is not a shred of evidence to show that the mediæval builders used it for that reason. As a fireproof construction the stone vault was generally either unnecessary or inadequate; unnecessary for the fire of a few benches or tapestries on the floor, perhaps one hundred feet below; inadequate as a protection from a fire in the roof, where the falling timbers seem invariably to have broken down the thin masonry. Stone vaults cannot really have been thought a necessity, because many churches, some of the first importance, have no vaulting; and others, as in Holland, have vaults of wood: a singular commentary, by the way, on the theory that Architecture is an accidental result of the proper use of material in construction. In truth the more we reflect upon the subject the more certain it appears that stone vaulting was used not because it was essential to the structure but because it was essential to the Architectural idea.

A tower may be regarded as necessary for the bells of a great church. But, surely, two, three, five, or more, towers cannot have been necessary for any other reason than a purely Architectural one, that is to say, for Symmetry, for Proportion. And to what rules either of convenience or of construction can the spires of those towers be

attributed? A tower needs of course a sufficient roof, but certainly no considerations of structure or of utility can have dictated those splendid and enormous objects, rising sometimes to a height of two hundred feet, or perhaps of two hundred and fifty feet, above the towers, difficult to build, difficult to keep in repair, and exposed to all the fury of the elements. And if this is true of the timber spires, what are we to say of the spires of masonry? Did those lofty hollow pyramids of stone, those roofs built up in horizontal courses of masons' work, and adorned with windows and traceries and buttresses, really originate from a study of the right use of material, from a fine sense of constructive propriety? Assuredly not. It is indeed impossible to deny that the stone spires are miracles of Building Art, but it is equally impossible to doubt that they owe their existence to Proportion, to Architectural premeditation. To say of such works that they are finely constructed is one thing, it is quite another to assert that construction dictated or suggested them.

Everybody will remember the most interesting and scholarly Paper last session in which Mr. Bidlake explained the development of the French cathedral plan, from the twelfth century to the fourteenth; how he showed that the plan of the clerestory, which in the twelfth century consisted of a continuous wall, pierced at intervals with small windows, became in the fourteenth century a series of gigantic piers, buttresses, and flying buttresses, with vast windows occupying the intervening spaces. Now if we compare these two plans from the standpoint of constructive fitness and the right use of material it is very evident that the later method has no advantage over the earlier. Both are excellent Building, but it would be difficult to show that, regarded only as construction, there is much to choose between them. What then was the purpose of this remarkable change of plan? Was it economy of material? The later plan absorbs as much material in the great piers and buttresses as the earlier required; probably indeed more. Was it economy of work? The supposition is ludicrous to anyone who has compared examples of the two. The explanation generally given is that the change was brought about by a desire for larger windows, and there is no doubt that this is, on the whole, the true explanation. But it was a desire for larger windows which had nothing in common with modern notions of convenience or sanitation. The mediæval artists did indeed desire larger windows, a more magnificent display of painted glass, more complex and harmonious traceries, nobler Proportions. In a word, this development of plan was prompted by Architectural motives.

Such reflections as these might be multiplied indefinitely. But enough perhaps has been said to show that the characteristic glories of Gothic Architecture cannot be explained as the unpremedi-

tated results of excellence in Building, and that everywhere there is evidence of a conscious Architectural purpose. The whole truth about the mediæval artists will perhaps never be known. Between them and us there is a great gulf fixed, the purposes which animated them have ceased to influence the modern world. I have used the word economy. But the more we study mediæval Architecture the more confident we become that economy, whether of time or space, whether of material or of human work, was an idea altogether unknown to the builders of the Middle Ages. The modern conception of economic structure would probably have been unintelligible to them. The aim of the mediæval artists was not economic structure, a very different, an unattainable, purpose seems to have inspired them; nothing less indeed than to realise the very *Domus Dei*, the Porch of Heaven, the New Jerusalem, as it was pictured in the sublime language of *Saint John*. It is when men's minds are fired by grand ideals that Architecture flourishes; when these fade a slow deterioration sets in which can be best described in Burke's memorable words. The age of generous enthusiasm has been succeeded by that of "sophisters, economists, and calculators," and our prosaic and utilitarian Architecture has lost "the unbought grace of life."

We find, then, from this brief examination of the two greatest Schools of Architecture, an examination necessarily slight and imperfect, that considerations of material, of structure, of convenience, and the like, are altogether inadequate to explain the facts. Everywhere, if we look attentively, we perceive with more or less distinctness the evidences of a deliberate Architectural intention; and if I were asked to give a definition of Architecture from the point of view of history and experience I should offer this:—Architecture is something designed, over and above the strict necessities of Building. Let us assume this definition provisionally, and, taking up the main thread of our inquiry, let us endeavour to ascertain some of the purposes of Architecture, considered as a Fine Art. What functions does the Art fulfil?

At the outset we are confronted by two difficulties. First, the idea conveyed by the word *design*, as a conscious and deliberate act of the mind, is held by many to be repugnant to a proper conception of Art. This however is a metaphysical question, and all metaphysics are excluded from our present study. Probably the difference between conscious and unconscious Art has been exaggerated, or too trenchantly insisted on, by critics; or consciousness of artistic purpose has been confused with consciousness of self. To discriminate with any accuracy between what is conscious in Art and what is unconscious may well seem impossible. Is not all Art, excepting only the most primitive and archaic, in a greater or less degree self-conscious? Artlessness belongs only to the infancy of Art. All Art

is probably the outcome of a transient emotional mood, which the Artist endeavours to make permanent, and in so doing transmits to others. It seems superfluous to inquire whether he is conscious of it or not. Therefore in discussing the impressions which Architecture makes upon the mind we waive altogether for the moment the question of conscious intention.

The second difficulty is to give in words the meaning of any work of Art. It would be no easy task to explain in precise terms the meaning of a poem, say one of Shelley's. Yet Shelley's language, vague and elusive as it is, is definite compared with the shadowy dialect of Architecture. In truth if all human emotions could have been expressed directly by language it is possible that many of the Arts would never have existed. The office of each is to awaken sensibilities that can be affected through no other medium. I shall be wise therefore to confine myself to those qualities of Architectural design which are most obvious, and most capable of translation into words.

We will begin by considering two popular opinions on the subject. Many people of average culture take a genuine pleasure in Architecture. If we were to ask one of those persons whom we meet in the holiday season wandering in College quadrangle or Cathedral close what quality of Architecture it is that attracts him, we should probably be told that it is the quality of *picturesqueness*. Whether that were the precise answer or not, there can be no doubt that the word *picturesque* does express the charm of Architecture for very many people. A pictorial quality is required of Architecture, to be interesting it must be suitable to make a picture, or at least to take a principal part in a picture. And that Architecture does actually possess this attractive quality of picturesqueness needs no argument, for we find that the great Masters of nearly every School of Painting have shown a remarkable predilection for it. It is enough to mention the great Italian Schools, from Giotto to Veronese, and a hundred examples of this will instantly occur to everybody. Without going so far as to say that all the artists of that long and illustrious succession were in the habit of introducing Architecture in their compositions, it may be confidently asserted that the great majority of them evidently took a peculiar pleasure in doing so. They neglected no opportunity of associating Architecture with the sacred or heroic personages whom they painted. Giotto's angels hover among the pillars and arcades of a Gothic cloister; Veronese depicts the *Meeting of Alexander with the Family of Darius* in the court of a magnificent Roman or Venetian palace. Sometimes, of course, Architecture was required by the subject of the picture, more frequently it would seem to have been introduced for no other reason than the painter's pleasure in representing it. Instances are not wanting where the Architecture assumes an importance hardly

secondary to that of the human subjects, as in Melozzo da Forlì's well-known portrait group *Pope Sixtus the Fourth giving Audience*, where the Architecture is drawn from the Library of the Vatican.

It is worthy of remark that Architecture as painted by the Italian Masters of the thirteenth, fourteenth, and fifteenth centuries is, with rare exceptions, Architecture in a state of ideal perfection, unaffected by the accidents of time and of human revolutions. No weather stains, no crumbling arches or broken cornices, disfigure the symmetry of the Temple in Perugino's *Presentation of the Keys to Saint Peter*, and in Raffaele's *Betrothal of the Virgin*. The taste for painting Architecture in a state of ruin and desolation, defaced by violence or neglect, belongs to the decadence of Italian Art. What the greater painters have required is an Architecture of the most perfect form, worthy to be associated with their ideal conceptions. The practice of the Italian Masters in this respect has been followed by the most eminent of later painters; by Turner, Watts, Leighton.

Time forbids any more detailed examination of the quality of picturesqueness, interesting as it would be. We can do no more now than note that Architecture may be expected to produce this pictorial effect, and proceed to a second popular opinion, namely that Architecture ought to convey the impression of size. There is no need to add much to what has previously been said on this subject in connection with Proportion. All size is relative, there is no such thing as absolute liness. What Architecture does, or should do, by means of Proportion, is to give to any building, whatever its actual measurement, the impression of adequate size. By the right use of this Art a small building may be redeemed from insignificance, and a large one made to give its utmost expression. Is it not a fact that two buildings of the same, or nearly the same, real dimensions will often differ very considerably in the effect they produce in respect of size? And by what means can the impression of adequate size be conveyed but by Proportion? Building is concerned with actual measurements, such as are dictated by convenience or necessity. The impression of size is essentially an Architectural effect. Indeed this office of Architecture must be tolerably familiar to all of us, the student and the young architect especially are constantly occupied with the question how to make things look just the right size, and very much of our study of ancient Architecture is prompted by a desire to catch the secret of those subtle relations which can make even a small building impressive. But we cannot afford to spend any more time on these rather elementary conceptions of Architectural effect.

Let us pass to a more important topic, and ask ourselves what purpose Architecture fulfils in relation to construction. We are all agreed that

Architecture not vitally related to structure must be shocking and repulsive, and in fact can hardly be said to exist except as a mere affectation, a mask, a piece of stage scenery. That Architecture must stand in very close and intimate relation to building structure is one of the commonplaces familiar to everybody, but it is not perhaps equally well understood what that relation properly is. Architecture is a constructional Art; yes! but so also is Building a constructional Art. Good building is good construction; how, then, can Architecture be better? If it is the office of Building to construct it seems superfluous for Architecture to profess the same end. Everybody of course admits that Architecture must not falsify or contradict the actual facts of construction, but what purpose it fulfils besides this merely negative one is not so obvious. Architecture is a constructional Art, yet at the first glance its work seems to be anticipated by Building. A very little reflection however enables us to perceive that the two Arts perform entirely different functions, and that while Building is concerned with the facts of construction the purpose of Architecture is the expression of structural principles. In other words, while it is the function of Building to construct, the province of Architecture is the manifestation of structure, the exhibition or expression of structural ideas in more or less symbolic forms. It may happen, indeed it very generally does happen, that the real facts of construction are of necessity concealed, or partially concealed, in Building. The office of Architecture is, by emphasis or by suggestion, to reveal them. And more than this, our minds are so constituted that we take pleasure not only in the exhibition of structure but in the representation of familiar structural forms. This again is the province of Architecture, to embody structural ideas in forms which are not connected, or are only slightly connected, with the actual necessities of construction, and which in fact are little more than symbols of structure, the reiterated or variable expressions of a structural principle. Architecture is the art of constructional idea.

To illustrate this at all fully would require the history of Architecture. A very few instances however must suffice, and we will begin with an extremely simple one. A beam is required adequate to sustain a weight of wall or floor; the Building Art teaches us to solve this elementary problem of construction in the most direct manner. But we may suppose, and it is by no means an improbable supposition, that this fact of construction is necessarily hidden, or that by the nature of the case its significance cannot easily be perceived, or that from whatever cause it conveys no impression of constructive power. It is the province of Architecture by increasing the proportions, or the apparent proportions, of the beam, or by moulding it into such a form as will readily suggest or express its purpose, to make manifest the hidden structural

principle. Innumerable instances of a similar kind will occur to everybody.

Or, again, consider the meaning of such a universal feature of Architecture as the capital of a column. There may have been a time, in archaic building, when the capital had, or was supposed to have, a real use in construction. But whatever importance it may once have possessed has long disappeared. In historic building the capital either serves no constructive purpose at all, or one so insignificant that it may safely be disregarded. Even a circular column, a portion at the top being left square, will sustain its architrave or archivolt as well without a capital as with one, while the capitals of square columns, of octagonal columns, of pilasters, can seldom possess any perceptible value as construction. In mediæval Architecture we find capitals on the convex mouldings of door and window jambs, on the mullions of windows, and in many similar positions, where it is obvious that they serve no purpose of construction. The capitals of an Early English doorway are nothing more than a series of small moulded projections of no use in the construction, which in fact is equally good where the capitals have been omitted. We have here then a remarkable survival; but for what reason has this feature survived during all these ages, when so many other features of archaic building have been left behind? The answer is that, although the capital is very seldom essential to constructive fact, it is of immense value to the expression of constructive idea. Its use in the Building Art is infinitesimally small, but its use in Architecture is beyond estimation. Not necessary to construction, it is yet necessary to the manifestation of structural principle. The abacus and echinus of the Parthenon, the Early English bell capitals of Salisbury Cathedral, might have been omitted with no loss to the construction of those famous buildings; but with how great loss to their expression of the dynamics of structure!

The simplest and perhaps the most ancient constructive principle of which we have any knowledge is that of the architrave or beam supported by two or more vertical posts or pillars. There is always in this elementary construction, even in vulgar uses of it, a suggestion of the prehistoric; it carries the mind back to Stonehenge, to the primeval builders of the Asiatic forests, to the earliest works of man. Simple and primitive as this principle is, it has been found capable of manifold expression in Architecture. The Greek Temple illustrates it with a wonderful poise of emphasis, in the lines of the architrave, in the echinus of the capitals, in the flutings of the columns, and it is the principal constructive idea which underlies all Classic and Renaissance Architecture. In some places, as in porticoes and peristyles, we see the real construction expressed, and, as it were, explained, by emphasis. In other places, such as windows and doorways, the real but latent

construction is made manifest; while in other places again, as in pilasters and engaged architraves, the *idea* only of the construction is given in a symbolic form; like a recurrent chime, or a stately formula repeated at intervals. Applied pilasters and architraves have been censured, often no doubt with good reason. But they cannot be wholly condemned unless we condemn in all Architecture the illustration of the dynamics of construction.

The great constructive principle of the Arch and its abutment has been expressed by Architecture in a remarkable variety of ways, but never surely with so much insistence, with so much thoroughness, with such exuberance and vivacity, as in the ecclesiastical Architecture of the Middle Ages. When we stand before one of those great churches the impression it makes upon us is not so much the impression of an arched structure as of a building wholly composed of arches. Everywhere we perceive a multiplicity of arched forms, repeated sometimes with stately emphasis, sometimes with almost fantastic extravagance. The windows are arched, the doorways—nay, the solid walls themselves, the very buttresses and pinnacles, the very bases and parapets, appear as though constructed of clusters of arches. We enter, and the same arched structure confronts us on every side in apparently endless repetition. Great arcades separate nave and aisles, the ceiling is a vast labyrinth of arches crossing and recrossing and intersecting in all directions. The walls are formed of long series of arcades of all kinds from the simplest to the most intricate and complex; the windows and sometimes the arcades contain a succession of lesser arches, and are filled with arched forms endlessly varied or repeated. Everything is arched, every niche, every canopy; even the tombs and monuments, even the wooden doors and furniture, are as though built of arches; arches are inscribed on the pavements and painted on the glass of the windows. An infinite variability runs all through this profusion of arched forms; there are arches within arches; cusped arches, as though the arch itself sustained yet other arches; oggee arches, reversed arches. The whole building is a sort of lyrical expression of arched structure, an elaborate symphony in which the central theme recurs throughout innumerable variations.

When we carefully consider in detail one of these great Architectural compositions we find that of this vast army of arches only a part, and perhaps the smaller part, has an essential constructive purpose, and that the rest perform no service to the actual construction, and are in fact nothing more than Architectural expressions of the dominant structural idea. The great arches between the nave and aisles are facts of construction, and the Architectural emphasis here consists in giving to each arch of the series the appearance of being made up of several distinct arches, placed one within the other, and

defined by sharp angles and hollows. Many of the other arches again, such as the arcades of the triforium, though obviously not necessary parts of the construction, are real structural facts employed for an Architectural purpose. But when due allowance has been made for all these there will still remain a vast number of arches and arched forms which fulfil no constructive purpose, and which are not properly arches at all, but symbols of arched structure. Many of these are merely arched shapes cut out of solid blocks of stone and not built with radiating joints; many indeed, such as the cusped arch, the oggee, and the reversed arch, could not possibly be built as true arches. There is no feature more characteristic of this Architecture, no feature in any Architecture more splendid and audacious, than the window tracery. The expression of the idea of arched structure in these windows is perfect, there is in them no suggestion of a pattern, the idea is sustained throughout of an absolutely logical and coherent development of arching. Yet window tracery is not constructed on the principle of the arch, and indeed, if we except some rudimentary and very imperfect forms of it, could not possibly have been so constructed. It was cut out of large pieces of stone and built as much as possible in horizontal courses. True arched construction was avoided of necessity. There is not probably in the whole range of Architectural history a more striking example of the difference between the facts of construction and the expression of structural idea than is furnished by the magnificent window tracery of the fourteenth century.

Many of the riotous and extravagant exhibitions of arched structure which we find in mediæval art are open to just the same kind of objection as the applied pilasters and entablatures of the Classic and Renaissance Schools. When we stand in King's College Chapel at Cambridge and see the whole surface of the building from the floor to the apex of the vaulting divided up into innumerable small arched compartments, and at the same time perceive that the importance of the arch to the real construction has diminished, we feel that the idea had ceased to be vital, and had begun to have a degree of falsity about it. But, that these great churches exhibit in an astonishing manner the purpose of Architecture as a manifestation of structural principle, there can be no question.

We turn to another aspect of Architecture, namely its relation to Nature. Can there be any element of naturalism in this highly artificial Art? To represent the appearances of Nature is surely the business of the painter, of the statuary, of the ornamentist, and, in another way, of the poet. Carved work and painted work, though these may form part of a building, are not Architecture. What has an Art which is concerned only with the relations of abstract form to do with the concrete forms of natural objects? That is the question, and the answer to it is obvious. Architecture certainly can have nothing

to do with the representation of the phenomena of Nature, even in the most conventional way, but it has much to do with the expression of the laws of Nature. Precluded by its very constitution from the possibility of representing natural fact Architecture finds its peculiar office in the representation or manifestation of natural law. Its mission is to express symbolically some of those vast forces whose mysterious agency must have been felt by man from the earliest times, long before Science had named them or explained the mode of their operation.

One of these is the law of Gravitation. Ages before Kepler and Newton men had learnt to recognise gravitation as a universal fact of nature. That all objects possess a quality of *weight*, that some unknown force causes every object to press down upon its supports, that an object insufficiently supported falls to the ground, are truths which must always have been perceived even by primitive savages. Assuredly the idea of weight, of this mysterious and ever-present force, must have strongly influenced the minds of the primeval builders. To build is to recognise the universal law of gravity, of weight; how to evade or suspend the action of that law was the first problem of archaic building. In all ages indeed building is occupied with questions of weight and the support of weight; but these to us familiar problems must have pressed upon the earliest builders with an insistence which we can now but faintly understand. A profound sense of weight and of the difficulty of supporting it must have been formed in the minds of the builders of the archaic ages, and it is not therefore surprising to find the idea of weight very strongly expressed in some of the earliest schools of Architecture; in the ancient architecture of Hindustan for instance, in that of Egypt, and of Greece.

In Egyptian Architecture indeed the law of weight is expressed with startling sincerity and directness. The Pyramid is a perfect emblem of weight, from which every idea of the possibility of support is excluded; it is weight absolute, immovable, fatal. The whole of Egyptian Architecture is oppressive with the suggestion of weight; of enormous incubus either insupportable or supported only with infinite difficulty and by the exercise of gigantic effort. Greek Architecture expresses the same law not less distinctly than Egyptian, but with a remarkable difference. The sense of weight is everywhere very finely indicated, even in the supports, in the entasis of the column, in the Dorian capital, in the Ionic base; but, on the other hand, we are made to feel that all this weight is sustained with perfect ease. The emphasis of weight is counterbalanced by the emphasis of support. Greek Architecture is the equal expression of the power of weight and of the power of upholding weight.

These forces are illustrated more or less in all Architecture and in a great variety of ways by over-hanging storeys and corbellings, by machicolations and massive cornices, and generally by the

skillful use of Proportion. The modern architect when he increases the size of a cornice or adds to the height of a parapet is unconsciously obeying an instinct inherited from archaic builders, and is expressing one of the laws by which all things exist.

The law of Growth will always be felt as the antithesis of the law of weight or gravitation, however unscientific such a feeling may be. That mysterious force by which all living things spring up and are sustained must have been regarded with wonder and admiration in all ages. But it might well seem impossible to manifest this vital power in Architecture if it were not for the fact that it has been already manifested with extraordinary success in the Architecture of the Middle Ages. The expression of the law of Growth is indeed the masterpiece of Gothic architecture. The interior of a great Cathedral is like no other work of man, it contradicts reason, it imposes the idea of a living and growing organism, and not of a laborious effort of human hands. We are sensible of a feeling of aspiration, the eye travels instinctively and inevitably upwards from the base to the apex of the vault, not downwards from the weight to the support. The capitals instead of expressing the idea of sustaining weight are hollowed out in vivacious curves. While Roman and Norman arches seem to exercise a ponderous pressure downwards upon the pillars, the Gothic arches convey the idea of springing up from, or even out of, the pillars by an energy of their own. Every line, every curve, expresses the force of a living growth. The idea of weight is obliterated from these great structures, every part appears as though it sustained itself by an inherent vitality. Even the ponderous vaults give no impression of weight, but seem rather to be instinct with the self-supporting energy of living things. In some of the *flamboyant* churches of France the expression of organic life, of vital power, almost amounts to an illusion, and our sensibilities are affected as by some marvellous and enchanted growth, for a moment arrested and perhaps in another moment to be revived. It may be doubted whether Architecture can anywhere show a greater triumph.

Here we must stop, not because we have come to the termination of our subject, but because the termination is not yet even in sight. By your indulgence we have travelled together a little way along a road which has often I fear been wearisome; we may no longer follow it, though it still stretches far in front of us. For indeed every line if steadily pursued soon appears to be endless; it leads off into infinity, whether it belongs to the universe of space or to the universe of thought.



(Photo. by Messrs. Salmon, Winchester.)  
WINCHESTER CATHEDRAL: SOUTH-EAST VIEW FROM THE DEANERY GARDEN.

## FOUNDATIONS: THE USE OF DIVERS AND THE GROUTING MACHINE.

By FRANCIS FOX, M.Inst.C.E. (Alyn Bank, Wimbledon).

Read before the Royal Institute of British Architects, Monday, 17th February 1908.

THE British Islands are so rich in cathedrals, abbeys, churches, castles, and other buildings dating, in many cases, from a remote past, and so many of these are suffering from the ravages of time, that my apology, if apology be needed, in thus occupying your time and attention, is the desire in the minds of all, that as these structures have been handed down to us by our ancestors, we should endeavour to preserve them for the use and delight of many generations to come.

When we look at these noble buildings, and consider the enormous expenditure of money and of thought, of skill and of taste, bestowed upon them, and remember that they are heir-looms, forming priceless history of art and architecture, the capital cost of which we have not to pay, the least we can do is to keep them in repair. In effecting this, we should aim at adopting some system that will not attract attention. The characteristics and features, the old stones with their cracks and deformations, with their weather-worn arrises and surfaces, with the very moss, should, if possible, be preserved. In those cases in which the actual stone has perished, it must, of course, be replaced by new; but walls that are simply cracked, or are within certain limits out of upright, should be secured without the constituent parts being removed or renovated.

I have in many cases pleaded for our ivy-covered buildings, that this lovely ornamentation of foliage should not be removed, but I have very reluctantly been driven to the conclusion that ivy is an enemy, and that it is guilty of having injured most seriously many buildings on which it has been allowed to grow. We have, however, an excellent substitute in the *Ampelopsis Veitchii*, or, as it is known in America, "Boston Ivy." As we all know, this requires no attention, clinging of its own accord to almost any material, and giving in October a glorious garment of crimson and gold. In one respect it fails in comparison with ivy, and

that is, being deciduous, it does not afford protection to the walls from snow and rain during the months of winter ; and, again, unless it be kept within bounds, it is liable to hide the beauty of the architectural details. But the ordinary ivy penetrates into the joints, seeking its nourishment from the old mortar, and as its rootlets grow in size it lifts the courses of masonry and cracks the stones with a force that is irresistible.

But my object to-night is to call attention to a method of repairing old walls at a minimum of cost, and with a maximum of strength ; although many engineers are familiar with the process it has very seldom been applied, and is not known to circles outside their profession. When a wall cracks the ordinary remedy is to send for a builder or a mason and employ him to point up the injury, which he does with mortar and trowel, and he succeeds in producing a result satisfactory to his own pocket and, for a time, pleasing to his employer's eye. But it should be borne in mind that this pointing goes in for only an inch in depth, and that the injury to the wall is in no degree remedied : the crack remains a crack, and its tendency to widen is by no means lessened.

I do not at present desire to deal with the question of faulty foundations, although these are responsible for many failures. In all cases these should be examined, but, in many instances, the upper portions of the work are so weakened and disintegrated that to attempt at the outset to rectify the defects below, would bring the whole structure into ruin. To underpin a badly cracked cathedral or church, before securing the fabric itself, is often to court disaster. The Romans were probably aware of the value of "grouting up" their work, but they had not the necessary appliance for doing it effectually ; nor had we until within the last twenty years, when the late Mr. James Greathead invented the grouting machine for use in the construction of deep tunnels or electric tube railways of London. And here it will be desirable to explain what is meant by the term. If a mixture of cement, sand, and water be made in proper proportion, it is called "grout," and when this is poured like cream into the cavities of a wall, the wall is "grouted up." This is apparently a very simple process, but it is nevertheless one which requires judgment and care.

Some forty years ago a large railway bridge over the London and South Western Railway had a pier cracked from top to bottom, not in consequence of bad foundations, but due to carelessness on the part of the masons fixing the bed stones for the column. This was so badly injured that it had to be rebuilt, and fear was entertained that all the other piers might prove to be suffering from the same defect. To avoid having to reconstruct the entire number, "grouting" was adopted, and, by applying a funnel and pipe of considerable height, cement grout was forced by the hydrostatic pressure into any cavities which existed. Thus an accident was averted at a cost of £5 or £10, and a probable expense of several hundreds was avoided.

Another instance was that of an ordinary arched bridge to carry an express line of railway over a roadway which was under construction. The centering was, in error, taken down too soon, with the result, that the abutments were pushed right and left on the masonry joints, making an unintentional plinth on both sides, and cracking the arch in several places through its entire width. The grouting system was applied as an experiment to avoid an expense of £500, which would have been necessitated by the reconstruction of the bridge. After an outlay in labour and cement of £27, the structure was completely repaired (except that these unequal plinths remain), and it has for twenty-five years carried some of the heaviest express locomotives travelling at high speeds. But it will be observed that, unless height can be obtained for funnel and pipe, this system cannot be applied, and thus in cellar and tunnel work it could not be used. Hence it was that Mr. Greathead proposed to abolish the funnel and vertical pipe, and in its place to apply compressed air.

The grouting machine [fig. 1] consists of an iron receiver or reservoir into which, by means of pumps, air can be forced under any pressure up to 100 lb. to the inch. This receiver is connected by a flexible tube to another portion of the apparatus called the "grouting pan," which is in fact a churn furnished with a handle and spindle to which are attached arms or beaters. The proper proportions of cement and water, and in certain cases sand, are then placed inside, the lid screwed down, and the contents churned up into the consistency of cream. This is now ready to be blown into the crack, the mouth of which on either side of the wall has meanwhile been clayed up to prevent the grout from escaping. The compressed air is then



(Photo. by W. Matthew Jones, Chester.)

FIG. 1.—THE GROUTING MACHINE AT WORK.

admitted to the grouting pan, and so soon as the necessary valve is opened the contents are discharged into the wall.

Having thus at our command an apparatus by which cement can be blown right into the heart of any structure, whereby all the loose particles of stone and the opposite sides of the crack can be agglutinated or, more properly, cemented together, we have the power of repairing injured buildings without being compelled to pull them down. The expense of grouting is very small, and does not generally amount to the one fifteenth or even one twentieth part of the cost of pulling down and rebuilding.

One of the first applications of this system was carried out by the late Mr. Greathead in the case of some extensive wine cellars. In consequence of some adjacent excavations, these

cellars had been cracked : and although the injury to the building was not important, still the expense which would have been incurred was very great. These cellars contained costly wine, and it was estimated that the mere transference of it to other cellars would have depreciated its value to the extent of some £10,000. Hence it was essential that, if possible, this should be avoided, and the grouting machine was applied. So successful was the result that not even a single bottle of wine had to be moved, and the entire cost of the work was only a few pounds.

Soon after this an alarming paragraph appeared in a certain London daily paper to the effect that, owing to tunnelling operations, the spire of Bow Church in Cheapside was *13 feet 6 inches* out of the upright ! The Rector and his Wardens consequently were perturbed by this statement, and requested us to examine and report on the subject. In the course of our investigation several matters came to light which are of considerable interest and deserve to be placed on record. It was deemed advisable, pending the enquiry as to the cause and extent of the injury, to stop the pealing of the bells ; and as, we all are aware, those children born within sound of Bow bells are known as " Cockneys," the curious result was that, for the fortnight during which the bells were silent, no " Cockneys " were born. It appears that the foundations of the tower and spire stand upon the Cheapside pavement of Roman time, which to-day is some 18 feet below the present level of the street. This continual raising of the level of London is doubtless due to the fact that the rubbish, resulting from the various fires from which the City has suffered in years gone by, and from the demolition of buildings, was not carted away, as is done to-day, but the surface was simply levelled down and the new buildings erected upon it. That there were cracks in the portion of the building connecting the church with the tower is undoubtedly true, but they were of ancient origin. Our task was to ascertain whether the tower and spire were out of perpendicular, and if so, to what extent. At first sight nothing was easier than to drop a plumb-bob and line from the top to the ground ; but we soon found that there was no access to the upper part of the steeple, and that if it had to be reached it would be necessary to erect a scaffolding—a matter of considerable expense. We therefore decided to take the necessary theodolite observations from both ends of Cheapside, but a fresh difficulty presented itself. It was then winter, and the mornings and evenings were so dark that the traffic had commenced and continued to run, before and after any such measurements could be taken. We therefore had to wait until the summer, when, in the early morning, we could have the free use of the street before carts had begun to pass. But it was then found that, although no traffic was moving, the vibration in the instrument was so great that no accurate result could at first be attained. The goods traffic on the London Chatham and Dover Railway at Ludgate Hill, the early trains on the District Railway, the trains on the Central London, all made themselves felt upon this delicate instrument, and we began to think we should fail to obtain any reliable result, and that London was never free from tremor. At last, however, it was found, on a bright summer's Sunday morning about four o'clock, that the throb and pulsation of London had ceased for a short time, and just at that moment we were able to obtain accurate measurements. Instead of 13 feet 6 inches (which, of course, had been misprinted instead of 13½ inches) we found that the total divergence from a vertical line was 8 inches, which was exactly accounted for by the small cracks visible in the walls of the structure.

About a year later a summons from the Mayor of the ancient city of Chester necessitated a visit to examine the towers and walls of those interesting remains, partly of Roman, partly of mediæval times. Evidently one of the towers was in jeopardy : it was cracked from top to bottom, and the various parts were moving in opposite directions. Whether the foundations were in fault, or the walls were weak, it was impossible to say ; but the first thing to be

done was to shore the tower with timber to prevent a collapse. The grouting machine was then applied, commencing at the base of the tower and gradually working upwards. By this means the cracks were filled with cement, and the walls were turned into monoliths; all the bulging portions, the old stones, and worn surfaces were left untouched, thus preserving the artistic and archaeological interests. Then the foundations could be examined, strengthened,



(Photo. by W. Matthew Jones, Chester.)

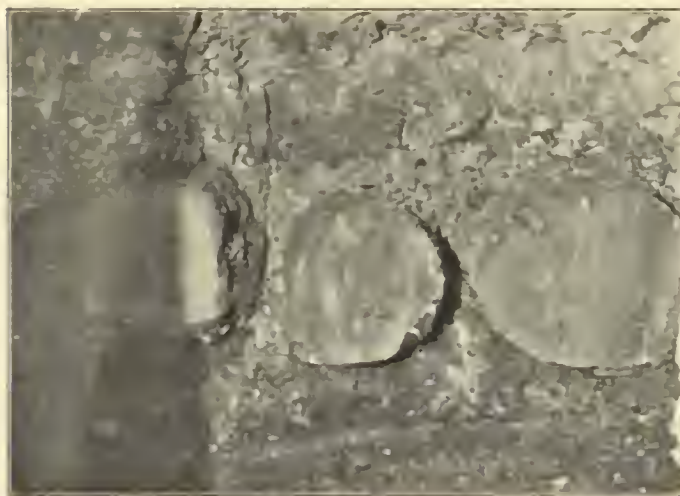
FIG. 2.—CHESTER WALLS: SECTION OF THE OLD RAMPARTS.

and underpinned, and everything put on a satisfactory basis. Although several years have elapsed since these repairs were effected, and the new lines of the London and North Western Railway have been in constant use, no further cracks nor movements have taken place.

A view is given of the cross-section of the ancient rampart [fig. 2] which consists of two badly built walls, the space between filled up with gravel, rubbish, and loose stones. This was thoroughly saturated with cement and the movement was arrested. The fine arched

bridge over the river Dee, built by Telford, was seriously cracked in the land arch and wing walls, but again the mischief was stopped by the grouting machine. The photographs by Mr. Jones, Assistant Borough Engineer of Chester, of the grouting machine in operation [fig. 1] will, with the foregoing explanation, make it easy to understand the process.

One of the most interesting applications of the grouting machine is at Winchester. This splendid cathedral was—by the direction of Dr. Furneaux, the Dean—being repaired by Mr. T. G. Jackson, R.A., the diocesan architect, and the late Mr. J. B. Colson, the architect of the cathedral, whose recent death is deeply regretted by all. These gentlemen had found that very serious subsidence had taken place in various parts, that in the presbytery amounting to nearly 2 feet 6 inches. The outer walls and buttresses had gone seriously out of the perpendicular, while the beautiful groined arches were distorted in form and disintegrated in character, and alarm had been caused by the fall of some stone from the roof. Mr. Jackson had sunk a trial pit some few yards distant, and had discovered a bed of peat 8 feet deep



*Photographed in situ.*

FIG. 2.—WINCHESTER CATHEDRAL: OLD BEECH TREES UNDER THE WALLS OF PRESBYTERY (A.D. 1202).

below the clay and resting upon a fine solid bed of flints and gravel, into which he had bored to some depth to prove its solidity. An excavation 5 feet in width was then made adjacent to the south wall, in which, at a depth of about 8 feet below the turf, the bottom of the masonry foundation was reached. It was discovered that the wall had been built on logs of beech wood, in fact, whole trees placed side by side horizontally [fig. 3], and these again, in their turn, rested in some instances on a second layer of trees. These timbers were to some extent rotten, but in other cases the heart was sound and good as ever. The

curious feature was, that even the rotten portion showed no signs of squeezing nor flattening under the weight of the wall. The level of the underside of these timbers coincided at that date with that of the water in the subsoil, although this level varied with dry and wet weather. This probably accounts for the timber decaying, as, in consequence of the draining of the city by the Corporation, the level has been permanently lowered, and the timber, which doubtless was just below water level, has of late years been alternately wet and dry, and has, consequently, to some extent, decayed. Beneath this timber a bed of chalky marl [fig. 4], in places 6 feet in thickness, was found to exist; and as very little pumping was required to keep the excavation dry, and the water came away clear and pellucid without any sand or deposit, the work was able to be proceeded with by means of a hand pump. The bed of peat proved to be almost impervious to water; but when within about a foot of the bottom (the entire thickness proving to be from 5 feet to 8 feet 6 inches) the lowest layer was suddenly burst up by the influx of a great volume of water from the gravel bed below, under considerable head. This was due to the water in the adjacent river, and in the course of a minute the whole pit was filled with water up to the original level. Pumping was plainly inadmissible, the use of compressed air was inapplicable, screw piles and caissons were considered and

rejected, a slab of concrete on which to float the cathedral was impossible, and finally it was decided to employ a diver, by which means the work could be done quietly and without vibration. A telegram to Messrs. Siebe & Gorman brought down two of their most experienced men, and by their aid [fig. 5] the excavation, in lengths of 5 feet, was finished, after which I descended in the dress to examine the bottom. This proved to be a hard flinty gravel, quite excellent, and, as this overlies the chalk, no better foundation could be either secured or desired.

Perhaps a few words may be of interest with reference to the diving. The boots weigh 20 lb. apiece, each having a thick lead sole; the dress weighs 30 lb.; the leads on chest and back are 40 lb. each, and the helmet 20 lb., making, with the remainder of the equipment, a total load to be carried of nearly 200 lb. But, notwithstanding all this, the flotation power of the water is so great that, in the case of a lightly built person going down the ladder, instead of treading on the rungs, it is necessary to place the feet beneath them, and pull oneself down step by step. The pits are absolutely dark owing to the water being thick with peat, and no artificial light is possible; consequently

the whole of the work is done, not by sight, but by feeling. So soon as the peat is excavated the bottom is covered over with bags filled with concrete, carefully and tightly trodden in all round; these are then slit open and another layer of bags placed on the top. These again are ripped up, and so on for four courses in all. The grouting machine can be used, the pipe being directed by the diver, but in this case all the chinks and crannies between the bags are filled by hand with cement concrete lowered down to him in buckets. Thus this mass becomes practically a solid rock and seals down the flood of water from the gravel, enabling the excavation to be pumped dry. Concreting is then continued, either in bulk or in block, until a considerable height is attained, and upon this blocks of concrete or brick in cement [fig. 6] are carried up and tightly pinned to the underside of the old masonry, constituting the original foundations of the cathedral. When all these excavations or pits are completed, the walls of

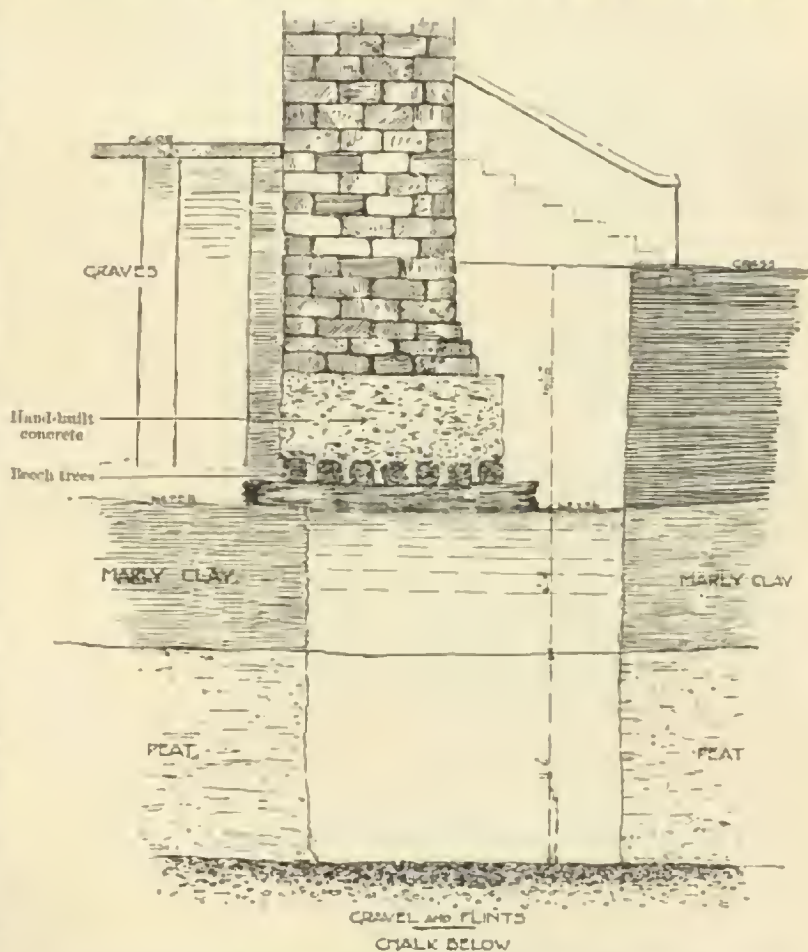


FIG. 4.—WINCHESTER CATHEDRAL: SECTION THROUGH WALL OF PERISTERY SHOWING BEECHWOOD UNDER THE FOUNDATIONS AND RELATIVE POSITIONS OF MARLY CLAY, PEAT BED, AND GRAVEL.

the presbytery will be practically standing on a bed of rock, instead of on compressible peat, and great credit is due to Mr. Walker, the diver, for the excellent manner in which he has executed this most responsible work.

The sequence of operations is as follows:—

1. Shoring up outside and inside the walls and vaulting.
2. Grouting the walls, arching and buttresses [fig. 7].
3. The underpinning of the walls down to the gravel.

When the above is done, the cracks will be cut out and repaired, and steel tie-bars will be fixed in different parts of the fabric. Photographs illustrative of the cracks are given [figs. 8, 9, 10, 11].

An interesting fact in connection with this cathedral is given in the *Ecclesiastical Annals of Winchester*. It appears that in 1079 Bishop Walkelyn, a relative of William the Conqueror, laid the foundation of the Norman Church, but the Bishop, finding himself distressed for want of timber, applied to the King for permission to fell some of the trees. William consented, and gave the Bishop a grant to fell and bear away as much as he could in four days and nights. Walkelyn collected together all the woodmen of the country and cut down and carted away every tree in the forest in the prescribed time, save the large oak under which St. Augustine is said to have preached. The King, returning to Winchester a few days after, looked about for the wood, saying that his eyes were either fascinated or that he had lost his senses, as he could not discover the forest which had existed there a short time before. His attendants, however, explained the circumstances, which at first irritated William against the Bishop, the King remarking, "Most assuredly, Walkelyn, I was too liberal in my grant, you too exacting in the use of it." The timber then cut still



FIG. 5.—WINCHESTER CATHEDRAL: THE DIVER DESCENDING TO HIS WORK IN 11 FEET OF WATER.

forms portions of the nave roof. The building occupied fourteen years, and on 8th April 1093, in the presence of nearly all the bishops and abbots of England, the monks of Winchester removed from the old minster to the new church with the "greatest exultation and glory."

It has now been ascertained that almost the entire cathedral stands on peat [fig. 4], which must be excavated. The south transept is over 4 feet out of the perpendicular, and cracks of the gravest character are found in all directions. The most serious fact is that the cathedral is sinking, due to the further compression of the peat in those places whence it has not yet been removed. "Tell-tales" or fillets of cement are placed across the cracks to give warning of any movement taking place, and except in those parts which have already been



(Photograph by flashlight.)

FIG. 6.—WINCHESTER CATHEDRAL: SHOWING THE CONCRETE DAGE DEPOSITED BY DIVER—AFTERWARDS BUILT UPON BY MASONS WITH BLOCKS OF CONCRETE OR BRICK IN CEMENT.



FIG. 7.—WINCHESTER CATHEDRAL: THE GROUTING MACHINE AT WORK ON THE ROOF.

underpinned, these cement fillets are broken through, in many cases within a month. In fact, the cathedral is doomed unless it is underpinned, and that without delay. Further extensive investigations will have to be made and repairs effected, both in the transept walls and main north and south aisles of this splendid cathedral, involving heavy expense. His Majesty the King has not only subscribed liberally to the fund for saving the edifice, but has commended this great work to his people; and surely they will not allow the Dean and Chapter to be

hindered for the want of the necessary means to secure this building for the use of future generations. It is the burial place of several of our Saxon kings, and is bound up in the history of our country through the whole line of sovereigns to the present date. Messrs. Thompson, of Peterborough, are the contractors, and they are ably represented by Mr. Ferrar; the clerk of the works being Mr. Long, to both of whom I am indebted for several excellent photographs. On the table are exhibited a portion of one of the beech logs and specimens of the peat and flint gravel bed.

The ancient church of Corhampton, near Bishop's Waltham, in Hampshire, repaired by Mr. Jackson, is another satisfactory instance of the application of the grouting machine. This Saxon church, 1,300 years old, was in a sadly dilapidated condition. In the west gable there were three large cracks, one from the ridge to the ground wide enough for a man's arm to enter; another, nearer the side wall, wide enough for the insertion of his head,



FIG. 8.—WINCHESTER CATHEDRAL: S. TRANSEPT, E. SIDE, S. WINDOW OF CRESSATORY.

whilst at the north-west angle the Saxon work threatened to fall bodily off. The mortar of the walls had perished through age, and the ivy had penetrated into the interior of the church in every direction. It would have been unsafe to attempt any examination of the foundations for fear of bringing down the whole fabric; consequently the grouting machine was applied all over the building. The "grout" escaped at every point, and it occupied the attention of the masons both inside and outside, to stop it promptly by dabbing red clay on to the openings from which it was running. By the time the walls had taken all the grout that could be forced in, the church was practically a red building, both inside and outside, from the extensive

use of this red clay. The cracks were in places so wide that they had to be specially treated before commencing to grout them, and the clay was so arranged as to extend into the crack about an inch on both faces. After the operation had been completed and the cement had set hard, the clay was removed and the interior was found to be filled with adamant; but as it did not come within an inch of the face of the wall, sufficient depth was left for fixing the flint work outside, and tiling inside. The result is that no trace of the crack is visible, and after this treatment of the walls they are stronger and better than they ever were. Subsequent steps were then taken to examine and, where necessary, to underpin the walls, and we have the satisfaction of knowing that these efforts have saved the church. The Vicar, the Rev. H. Churton, writing on the subject on 18th October 1906, said: "The grouting was most effective, and I think the walls are now quite safe, and all without moving one of the Saxon 'long and short' stones."

Holy Trinity Church, Hull, of which the Rev. A. B. G. Lillingston is vicar, is the most recent instance of the application of this system; but the difficulties were as great or greater than any of those already described. This magnificent church [fig. 13], one of the three largest in England, was built soon after A.D. 1300, at which date the foundations of the tower were laid. The choir was completed in 1361, the nave in 1418, and the upper portion of the tower in 1520. The church consists of a fine nave of eight arches on each side, with side aisles, the choir

of five arches and also with side aisles; a transept with the handsome tower in the middle standing on four massive piers [fig. 14], each one cruciform on plan. The weight of the tower is 2,800 tons, equivalent to 700 tons on each pier. For some time past signs of serious settlements had shown themselves in the arches and piers surrounding the tower, and these had been under the observation of the architect of the church, Mr. F. S. Brodrick, York diocesan surveyor. These movements had caused considerable cracks, and portions of masonry had from time to time fallen, the most alarming of which was that of a large corbel carrying



FIG. 3.—WINCHESTER CATHEDRAL: DISINTEGRATED CONDITION OF THE VAULTING OF PRESBYTERY.

the ridge of the choir roof on the eastern face of the tower. The piers of the nave, which for their height are very slender, and are each carrying a load of 75 tons, exhibited serious deviation from the perpendicular, being from six to seven inches out of plumb, and the subsidence of the tower had caused the joints of the shafts to open on one side and to crush on the other. These movements were going on at a somewhat alarming rate when I was called into consultation. A tradition existed that, as the town of Hull stands on a bed of clay overlying a deep bed of silt, the tower was built on a raft of timber, but this required investigation. On making a careful survey of the building in conjunction with Mr. Brodriek, we came to the conclusion that, from some cause or other, the tower was slowly sinking, and in so doing was pushing all the arches at the west end towards the west, and all the arches at the east towards the east. The first thing to be done was to strut and cross-brace the arches and columns to prevent the possibility of a collapse; next to examine the brickwork in the spandrels of the arches adjacent to the tower. These were covered with plaster, but, on this being removed, serious cracks



FIG. 10.—WISBECH CATHEDRAL: THE BROKEN WIND AND ARCH OF THE VAULTING IN THE CHORISTERY.

were found, showing that the brickwork was being dragged down by the pier. A hole was then made in the floor of the church, and, as expected, a timber raft of horizontal oak baulks crossing each other at right angles was discovered. The upper layer had been reduced—by rot—to a powder resembling "coffee-grounds," and innumerable worms known as "eel worms," from one eighth of an inch to a half-inch in length, infested the material. The destruction of the upper layer was practically complete, and the lower layer of timber was decay-

ing [fig. 15]. The masonry overlying this timber was cracked and flaked in all directions and most seriously injured, and a very interesting and unexpected discovery was made. A stone seat, or bench table [fig. 16], was found surrounding the pier of the tower, and partly in consequence of the sinking of the tower, and partly as a result of the floor being raised at some period, this seat is now below the tiling, and completely out of sight, and all record of it had been lost. Stone seats of this character are said to have given rise to the expression "the weakest go to the wall." This is generally considered to imply that in the rush and race of life the strongest pass by the weakest, who are ground against the wall. However, it is said to mean that in mediæval times, when services were held in the body of the churches (as in the cathedrals and churches on the Continent of to-day), no sitting accommodation being provided, the strongest had to stand, but the weakest would find seats if they went to the wall. Certainly this is the more pleasing interpretation of the saying.

Pending the decision as to the very difficult problem involved in this parish church of

Hull, for the removal of the decaying timber and crushed masonry, all of which had to be replaced, the grouting machine was freely used for pumping or forcing in cement into every cavity and crevice, and for filling up all the voids left by the decayed timber. Beneath the columns of the nave vertical piles, probably of larch, were found, but in some instances the timbers had gone into powder, leaving only the form of the timber impressed in the clay, so that where a pile formerly existed only a cylindriant hole similar to the moulded form for casting a pipe remained, and at the bottom of the holes was a mass of the before-mentioned "coffee-grounds." The contractors are Messrs. Thompson, of Peterborough, whose representative, Mr. Ball, has carried out the difficult and often dangerous operation with great skill. One pier of the tower was dealt with at a time, and the greatest care had to be exercised. An excavation 24 feet in length by 6 feet in width, and to the same depth as the old work, was made clear of the pier, and on both the east and west sides, and was filled with concrete in which were placed grillage beams in order to distribute the eventual weight over the whole area. A hole  $2\frac{1}{2}$  feet in depth and about 9 inches in width was then carefully cut or "jumped" through the masonry of the pier, and a steel girder, 24 inches by 7 inches, was threaded through the hole and rested on the grillage beams in these concrete blocks [fig. 17]. In order to prevent subsidence, due to the deflection



FIG. 11.—WINCHESTER CATHEDRAL: CRACK IN WINDOW E. END, S. AISLE MAIN CHURCH.

of the girder when it received its load, steel wedges were driven in under the end of the steel beams, thus giving the initial deflection, and avoiding by this means all sinking of the pier. The girder was then built into position with blue brick in cement and was carefully grouted up. A second, third, and fourth steel beam were in due rotation placed in position, and in this manner the load was quietly and safely transferred from the decaying wood beams on to the steel girders. After this the old cracked masonry and rotting timbers (which were found to be snapped through) were removed, one-fourth part at a time, from beneath the pier, and their place filled up with concrete in cement, with the result that to-day each pier stands on

about 560 square feet of solid concrete instead of on the old defective foundation. As soon as the four piers of the tower were secured the columns of the nave were taken down, one at a time, and rebuilt in vertical position with so much of the old masonry as was available [fig. 18];



FIG. 12.—WINCHESTER CATHEDRAL: SHOWING PLUMB-LINE ON A.R. RESTORED PIER, LANGTON CHAPEL PRESBYTERY; OBSERVE PLUMB-BOB HANGING FROM THE CAP DOWN TO THE BASE.

but in consequence of the transverse strains brought to bear upon them, we found about two blocks out of twelve fractured and useless [fig. 19].

A most satisfactory feature in connection with Hull Parish Church is the fact that when a town meeting was convened by the Mayor—a prominent Wesleyan Methodist—he called attention to the fact that the saving of this church was the duty of all classes and of all denominations. One of the local Members of Parliament, a Primitive Methodist, endorsed these remarks, and urgent appeals were then made by the Bishop of Ripon, the Bishop of Hull, and by the Vicar, the Rev. A. B. G. Lillingston. The meeting was attended by all classes and all denominations, and thus a great and united effort was made to raise the necessary funds to secure this fine church as the future cathedral of Hull.

I am desirous of saying a few words as to the risk of fire in these venerable and priceless build-

ings. We introduce all kinds of modern ideas in order to bring them in comfort up to date, such as furnaces, gas, electric light; but we often fail to introduce at the same time the necessary precautions. The plumber on the roof is a well-known cause of disaster, and to-day workmen carry into the most inflammable places, such as amongst timber roofs, flaring petroleum lamps and plumber's blow-lamps. The most stringent rules are required if we desire to protect these buildings. If workmen have to visit such places in the dark, the use of oil should be absolutely prohibited, and wax candles inside lanterns only allowed. Even

these should be numbered and returned when done with to an official entrusted with this duty.

The preservation of the old road bridges throughout the country is a matter of the greatest importance, not only to the ratepayers, who will be heavily taxed if they have to be replaced by new structures, but also with a view to continuing for future generations these delightfully



(Photo. by Messrs. Turner & Zinkwater, Hull.)

FIG. 13.—HOLY TRINITY CHURCH, HULL : FROM THE SOUTH-WEST.

picturesque features in the landscape. Many of these bridges, owing to the increased weight and speed of traffic, and in consequence of the decay of the mortar, have cracked in places : they are then reported by the County Surveyor as being in a dangerous condition, and this is followed by their condemnation by the County Council, who, in the absence of any knowledge as to a ready means of saving them, are helpless in the matter. The result is that these old structures are disappearing from the face of the land, and are being replaced by others costly and often unattractive, all the historical and architectural features being lost.



*by Messrs. Turner & Ivinson.*

FIG. 11.—HOLY TRINITY CHURCH, HULL: FROM WEST END. THE CENTRAL TOWER SINKING: THE NAVE PILLARS OUT OF PERPENDICULAR.



FIG. 12.—HOLY TRINITY CHURCH, HULL: SOME OF THE SMALLER OAK LOGS FROM UNDER THE TOWER SHOWING SERIOUS DECAY.



(Photo. by Messrs. Turner & Deakinwater, Hull.)

FIG. 16.—HOLY TRINITY CHURCH, HULL: THE STONE SEAT OR BENCH TABLE FOUND BENEATH THE FLAMB OF THE CHURCH (A.D. 1280-1295).



(Photo. by Messrs. Turner & Deakinwater, Hull.)

FIG. 17.—HOLY TRINITY CHURCH, HULL: S.W. FLEW OF TOWER, LOOKING S.E., SHOWING ORDERS, & SIDE ONE ALREADY FIXED, THE SECOND ONE BEING THREADED THROUGH.

By means of the grouting machine these bridges can be saved for a fifth or even a tenth part of the cost of new ones, and can be made safe and strong enough to last another five hundred years.

A photograph [fig. 20] is shown of a road bridge over a stream in Westmorland which was in a very bad condition; the abutments were being undercut by the stream, some of the arch stones had fallen out, and the arch and walls were badly cracked. This bridge has now been repaired by the machine, and, although delay and increased expense were incurred in consequence of the work being done during the winter and in flood time, the entire cost has been £50.

The celebrated "Auld Brig o' Ayr" is now in process of preservation, and the grouting machine plays an important part in the operations.

Two objections have been urged against the use of the grouting machine. The first is that the cement blown into a wall may afterwards expand and again crack the building. The answer to this is that cement which does swell or expand should never be used, whether with or without the machine, and that it can easily be detected beforehand by efficient inspection and tests. The second objection is that if such a high compression of air be used, the walls may be blown to pieces; but this is impossible, for



(Photo. by Messrs. Turner & Deane, Ltd., Hull.)

FIG. 18—HOLY TRINITY CHURCH, HULL: TAKING DOWN ONE OF THE SAME PILLARS, IN ORDER TO BUILD IT UP IN PERPENDICULAR POSITION.

although it is necessary to obtain penetration into the heart of the work by velocity, yet the safeguard is the use of the rubber hose which would very soon burst. In addition to this the clay pointing of the cracks would not sustain any heavy pressure, and would fall out.

My opinion, after long experience, is that the grouting machine in the hands of a



(Photo, by J. Hall.)

FIG. 19.—HOLY TRINITY CHURCH, HULL: PORTIONS OF AAVE PILLARS FOUND TO BE BROKEN THROUGH: ALSO PATCHED STONES FIXED AT A FORMER RESTORATION OF THE CHURCH.



FIG. 20.—AN OLD BRIDGE IN WESTMORELAND, REPAIRED BY GROUTING MACHINE

practical man who knows how to employ it, is of unmixed advantage, and that no valid objection exists against its wholesale adoption.

In conclusion I venture to appeal to owners of property, and particularly to ladies, who are invariably interested in old buildings, to assist in this effort to preserve them for centuries to come.

#### NOTE ON CEMENT.

In using the grouting machine it is all-important that only cement of excellent quality should be used. It should not be quick-setting, as this tends to clog the machine and piping, and would if allowed to do so ruin both; nor should it be a cement which will expand to an appreciable extent in the work. This points to the necessity for submitting it (not only that which is used in the machine, but equally so that used in ordinary building) to the tests provided for in the standard specification. All kinds of natural cement, especially Belgian, should be absolutely condemned; for the author has been called in to advise on several buildings in which it had been employed with most disastrous results.

As regards burying steel girders in cement concrete, the author is of opinion, after long experience and many tests, that, if properly treated, the metal is indestructible when fixed above water level. What the eventual result may be below water level remains to be proved, and its history still has to be written; therefore for cathedral and church work he would not care to recommend its adoption.



BRIDGE OVER A CUMBRIAN RIVER, FOR THE PRESERVATION OF WHICH EFFORTS ARE BEING MADE.

## DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

MR. H. D. SEARLES-WOOD [F.], in proposing a vote of thanks to Mr. Fox for his most entertaining and able lecture, said it was a subject on which architects were extremely interested; if they had not good foundations, of course their buildings would not stand. With regard to the question of the bad cement which Mr. Fox had referred to, the Institute had been endeavouring to correct that in connection with the standardisation movement, and their solution of the difficulty was that all cement should be delivered in sealed bags with the name of the maker on the seal. At the present time they had no possible check upon the origin of the cement. If one watched a train being loaded up at cement works, one would find as many as twenty different names on the sacks being sent out from that particular factory. If the place of origin of the cement could be properly labelled on the sealed bag, then there would be no difficulty about the identification of the material that was being used. He hoped that every one present would support them in that movement. They were endeavouring to do it by means of the Chamber of Commerce. They had not been able to persuade the Standardisation Committee to take the subject up, because they were nearly all engineers on that Committee, and engineers used cement in such very large quantities that they did not realise the difficulties of architects who used it only in very small quantities. That was why they had not been able to get it put into a standard; but if they could get the support of the architects by means of the Chamber of Commerce, they would arrive at the same conclusion and get the material properly identified.

PROFESSOR BERESFORD PILE [F.] said they had had an exceedingly important and interesting Paper, if only on the ground of the extraordinary interest which Winchester Cathedral possessed for every architect and every Englishman. He should like to suggest what appeared to him to be the secret of the usefulness of the grouting machine. Our Saxon or early forefathers, he imagined, took the best row of field-stones or quarry bits they could find, and laid them on the approximate line of their foundations on both faces of the wall. The interior of the wall was a matter of indifference; it was filled in from face to face. That would be found from Saxon work onwards. The first difficulty to be faced in the construction of that wall was turning the corner, because more or less square or dressed stones would be weak on that angle. That led, of course, to the insertion

of the proper freestone coign, which in Saxon work was often long and short work.\* Coming to the pier, the coign was used in the same way when they came to each angle, and thus came the well-known projections which gave them mouldings, and the fundamental shapes of the piers to be seen at Hnll. This was the method of construction of the Hull pier and the Winchester pier. That, too, was the story of the front at Peterborough, the story of the central pier at Chichester, the story so plaintively told in Sir Gilbert Scott's memorials, where they read of his son being awake up from his Sunday morning's sleep to be told that the stuff was falling out of a hole in the pier like water out of a bucket. It was simply the drying-up of this over-grouted rubble, because the original grout became dry, there being no cement in it. It was perfectly obvious that the settlements which came after the lapse of six, seven, or eight hundred years with the alteration of the water in the subsoil affected the wall from one face to the other, passing through the rubble core from dressed stone to dressed stone. Of course, in a cathedral like that at Winchester the whole of the exposed rubble surfaces had been replaced by ashlar, behind which there was in every cathedral, in every mediæval building—indeed, in every Gothic building throughout the kingdom, right down to the end of the fifteenth century and even much later—abundant opportunity for the display of the virtues of Mr. Francis Fox's pet machine. The interiors of these walls in every case were hungry receptacles for tons of liquid cement, and it would be an infinite blessing if this could be applied wholesale. Experience only would show whether there might not be risks and dangers connected with it, and he was inclined to think that those risks and dangers were best left to the inventors of the machine to deal with. The vaults at Winchester were the most interesting set of vaults in England. In Winchester he believed they saw the leading example of the cross Norman vault built of rubble only. The vaults across the ends of the transepts were the most remarkable in England. They were all rubble, without dressed stone. They were semicircular, and the result was that the intersection was elliptical. It was difficult to talk about a vault of that sort being forced out of shape when it never had any shape. The accidental intersection of the two semicircular arches at right

\* Professor Pile illustrated this portion of his remarks by drawings on the blackboard.

angles produced an elliptical curve which the Normans could not understand. He did not think a true elliptical arch was ever built in England in the Middle Ages. That elliptical intersection was, of course, a point of the very greatest weakness. There was no structural support, and it was that elliptical intersection which led to the use of the semicircular arching of dressed stones strung diagonally across to carry the weak angle of the rubble. The use of the semicircular arch on the diagonal to shore up the apex of the vault necessitated the use of a pointed arch on the transverse base, and it was this problem which had brought them face to face with pointed arches in this class of vaulting. One found them, for instance, in the aisles of Peterborough and Ely, and, for that matter, in all the other great Norman cathedrals. From that moment onwards, until the suspended tracery of Henry VII.'s Chapel at Westminster was obtained, the whole strength of mediæval vaulting was in the dressed stone rib. The filling never did any structural work, and if one bored a hole in one of these chalk fillings and found the whole lot of rubble come out of the pocket, one need not be surprised or afraid; there was no particular risk in it. The whole strength of the vault lay in the rib—as with an umbrella, as long as the ribs were sound, one could have it recovered as often as one liked. It had been an exceedingly interesting study to watch in the photographs of Winchester the extent of the failures of the ribs. In each case it was the rib that had been put out of shape, and it was necessary that the rib back should have some strength in it. He must confess to some sympathetic feeling with the old restorers who hung the ribs up to beams, because, if a thirteenth or fourteenth century vault were taken down and rebuilt to its true shape, the fifteenth-century work that lay above it was bound to be distorted. That was the practical difficulty of the architect; and where one had a magnificent superstructure of later work, as at Winchester, the risks connected with altering the *status quo*, to restore the *status quo ante*, were very considerable. These were the dangers with which they were face to face at Winchester. If blue brick together with the modern blessedness of cement and a squirt were properly applied to the walls of mediæval buildings, why should not any form of suspension applied to the back of these old ribs, however distorted, be possible, and be properly and logically applied in dealing with a deformity which had built upon it exceedingly beautiful work? That was the problem at Winchester, and no amount of restoration to the purely original form could be justified which brought one face to face with an alteration in the character—the historic character—and the age-long beauty that Winchester had acquired. That problem could no doubt be dealt with in a successful way; but he would suggest that if the

resources of modern science were justifiable in the interior of the wall, and in the basement of the foundation, they were equally justifiable if applied to the maintenance of these vaulted ribs. He had very much pleasure in supporting the vote of thanks for this exceedingly interesting, valuable, and, he hoped to be, widely spread Paper.

CANON RAWNSLEY, who rose at the invitation of the Chairman, said he could not tell them how much he hoped that what Mr. Fox had said would reach a very wide public, because in the Lake Country, and in Cumberland and Westmorland they were deeply interested in preserving what was certainly not one of the least important features of their valley roads, the beautiful bridges of the fifteenth, sixteenth, and seventeenth centuries. They were the result, almost always, he believed, of additions to the old pack-horse routes, and their beautiful curves had been preserved from the earliest times. They also felt, with Mr. Fox, that the dangers were very great of allowing these bridges to be put in the hands of people who did not know either the history of the country or care very much about the colour of the country. It would be found a great temptation to import easily worked red sandstone, for instance, into the neighbourhood from Annan and other parts of the country, which were entirely incongruous in colour with the beautiful volcanic ash of their hills; and this must happen in other parts of England. He urged, therefore, very strongly that, as far as possible, the bridges built of the native stone should be preserved as being more in harmony with the general colour of the country. It was felt that a good deal of poetry would be taken away from them if they allowed a new hand to come in and bring another country's material to make a bridge in their midst. If the ratepayers could be made to understand that their bridges, with all their curves and built of the stone of the district, could be saved at a very small cost, they would be certainly more inclined to pause before allowing the motorist, or the proprietors of heavy traction engines which naturally shook the bridges which were not built for these heavy vehicles, to alter these structures. The public, he thought, would generally be on the side of those like Mr. Fox who desired to conserve these beautiful bridges. He thanked them very much for allowing him to say these few words, and to urge that, as far as possible, this idea of really looking on the old bridges as part of the poetry and history of the past throughout the whole of their country should be considered, and they should do what they could to hand on to their children's children what John Ruskin called the great entail of beauty that had been left to them.

MR. GEORGE HUBBARD, F.S.A. [F.], said he thought there could be no doubt that every generation should be the trustee of the great monuments that had come down to them, and it was the sub-

sequent generations who would really accord to Mr. Fox their vote of thanks for the work he was doing, and which he had so beautifully illustrated before them that evening. Professor Beresford Pite's point, he thought, was a perfectly good one as regards the vaulting. There seemed no necessity to reinstate the vaulting so that it should have its original contour. By the injection of cement in the manner shown, the building practically became a monolith, and the correct outline or contour of the vaulting would not then much matter. He did not know if he was making his point clear, but what he meant was this: At the present moment the vaulting depended, though perhaps insecurely, upon the mutual support which each voussoir gave to its neighbour. If, instead of maintaining the principle on which the arch relied for its support, the vaulting were constructed out of the solid stone, the actual contour, or the line of the arch, was of small moment.

MR. MAX CLARKE [F.] said that a few months ago he had an inquiry as to where a grouting machine could be seen or heard of, and his reply was that the only thing he knew about it was that it was used at Winchester Cathedral. Now he felt satisfied that for the next inquirer he should only have to refer him to Mr. Fox. He should like to add his quota of praise for the most admirable illustrations shown them, because as a photographer himself he knew that some of these photographs had been taken under very difficult circumstances, and were really of great merit. One drawing thrown on the screen showed some transverse beams underneath the foundations at Winchester. He was there some eighteen months ago, after the works had been commenced, and the late Mr. Colson told him that no transverse beams had been discovered, but that the whole of the beams underneath the walls were laid parallel to the length of the wall. Perhaps Mr. Fox would throw some light on that point. He should also like to ask a question on a subject he was very much interested in. Mr. Fox had told them of a concrete floor which had failed, and he attributed the failure to the cement. He (the speaker) was joining issue with a very large number of people at the present time on that point, because he thought that in the great majority of cases the engineers and the architects had made rather a mistake in attributing the failures to the cement; he thought it more than probable that a large proportion of them were attributable

to the aggregate. He therefore would like to ask what the aggregate in the case referred to was composed of.

MR. FRANCIS FOX, replying to some of the points raised, said he was afraid he could not answer offhand the question about the aggregate or the cement; all he knew was, that they had taken blocks of concrete out of the floor and exposed them again to heat, so as to get the chemical action more rapid in the cement, and the concrete had swollen. They knew that it was made from what was called natural cement, which simply meant that nature had not worked to a true chemical analysis, and that the cement stone in one place was different from what it was in another, and consequently the natural product was a dangerous thing to use. Nothing would ever induce him to touch it. With regard to the logs in the foundations, they were generally transverse and not longitudinal, but in some few instances they were both ways. Concerning the stone ribs which were referred to, he was very sorry that Mr. Jackson, through ill-health, was not able to be present to answer the point; that was a matter over which he had entire control. He (Mr. Fox) could, however, say that when a rib was actually crushed it was not a question of holding it up with bolts and beams, but the crushed stone had to be removed, and he thought Mr. Jackson had acted wisely in what he had done.

THE PRESIDENT, in putting the vote of thanks, said that it seemed that Mr. Fox's great aim in life was to render the rotten cores of their cathedral walls into sound ones, and the work he was doing at Winchester in that direction was not only interesting, but was of the utmost value. He did not think one could have listened to a Paper on the subject of foundations delivered in a more interesting manner than Mr. Fox had delivered this. It had not only been very instructive, but it had been throughout most highly interesting. With regard to the question of bridges, he thought the Institute could take some credit for having used its influence towards the saving of some interesting bridges in the country. There were one or two instances where the Council had been able to assist Town Councils by their advice, and the bridges had been preserved as a result of their action.

The vote of thanks was then put and carried by acclamation.



9 CONDUIT STREET, LONDON, W., 22nd February 1908

## CHRONICLE.

### Mr. Francis Fox's Paper.

The unfavourable weather of Monday doubtless accounted for the comparatively small muster of members on the occasion of Mr. Francis Fox's Paper. Visitors, however, were numerous, and the room was consequently fairly full. Mr. Fox is a delightful lecturer; his interesting discourse, which was delivered with scarcely any reference to the printed copy before him, was interspersed with frequent humorous observations and anecdotes, and the hour and a half of its delivery passed quickly and most agreeably to the audience. The lantern illustrations, mainly photographs, some of them taken by flashlight far underground and in most difficult situations, were exceptionally good. An interesting exhibit was a model of the Great-head shield, the use of which led to the invention of the grouting machine; photographs of both machines in operation on one of the tube railways were projected on to the screen. The lecturer showed some interesting relics his excavations had brought to light from under the foundations of Winchester Cathedral and other old churches. These included a block from one of the oak logs on which rested the foundations of Holy Trinity Church, Hull [A.D. 1300], and blocks of the old beech logs on which the foundations of Winchester Cathedral were laid [A.D. 1202]. This old timber takes a capital polish, and a specimen slab shown by Mr. Fox, finely polished, and with the date 1202 cut upon it, suggests that the venerable old logs treated in this way might perhaps be turned to useful account in aid of the Cathedral Preservation Fund. Samples of peat and gravel from under the Winchester foundations were shown, together with cherry-stones, plum-stones, and apple-pips from the fruit eaten by the original builders, and found perfectly preserved in the upper surface of the peat. Of interest, too, were pieces of oak and fir cut from the piles which formed the foundation of the old Campanile of St. Mark, as sound to-day as when driven into the clay and watery sands of Venice over a thousand years ago.

### The Prize Drawings for Exhibition in the Provinces.

The following selection from the premiated designs and drawings in the Institute Prize Competitions, together with some studies submitted by candidates for the Intermediate Examination, will be exhibited during the next few months under the auspices of the Allied Societies:—

*The Royal Institute Silver Medal (Measured Drawings).*—Drawings of Gran Guardia Vecchia, Verona (2 strainers), by Mr. Leslie Wilkinson (under motto "Sanmicheli"), awarded the Silver Medal and Ten Guineas; drawings of Porta del Palio, Verona (1 strainer), by Mr. Maurice Lyon (under motto "Sanmicheli").

*The Soane Medallion.*—Designs for a Customs House on a Quay: 3 strainers by Mr. George Drysdale (under motto "Free Trade"), awarded the Medallion and £100; 2 strainers by Mr. Adrian Berrington (under motto "Fabulosus") and 2 strainers by Mr. R. R. Prentice (under motto "Hang! I've forgotten the Motto!"), awarded Hon. Mention and Five Guineas each.

*The Owen Jones Studentship.*—Drawings by Mr. A. E. Martin (2 strainers), awarded the Certificate and £100.

*The Pugin Studentship.*—Drawings by Mr. Sidney G. Follett (3 strainers), awarded the Medal and £40; Drawings (1 strainer) by Mr. A. Winter Rose, awarded a Prize of Ten Guineas, and Mr. N. W. Hadwen (1 strainer), awarded Hon. Mention.

*The Tite Prize.*—Designs for an Open-Air Theatre: 2 strainers by Mr. George Drysdale (under motto "Yours truly"), awarded the Certificate and £30; 2 strainers by Mr. Anthony R. Barker (under motto "Balbus"), awarded a Medal of Merit and Ten Guineas; 1 strainer by Mr. T. L. Vesper (under motto "Dombey") and 1 strainer by Mr. Alan Binning (under motto "Panjandrum"), awarded Hon. Mention.

*The Grissell Gold Medal.*—Design for an Elevated Water Tank in Reinforced Concrete: 2 strainers by Mr. John H. Markham (under motto "A B C"), awarded the Medal and Ten Guineas.

*The Arthur Cates Prize.*—Drawings by Mr. Bryan Watson (2 strainers), awarded the Prize of Forty Guineas.

*The Henry Saxon Snell Prize.*—Design for a General Hospital suitable for a Provincial Town: 2 strainers by Mr. W. Milburn, jun., awarded the Prize of £60.

A selection of the Testimonies of Study submitted for the Intermediate Examination by Messrs. R. W. Atkey (2 sheets), J. E. Bullock (1 sheet), and J. H. Farrar (6 sheets).

*Erratum.*—In the review of the Prize Drawings, p. 223, fourth paragraph, Mr. Adrian Berrington should have been credited with Hon. Mention for the Soane Medallion. Mr. Alan Binning, whose name was given in error, received Hon. Mention for the Tite Prize. This correction is of course in accordance with the Deed of Award [p. 206].

### The British School at Athens.

The Managing Committee of the British School at Athens have issued the following summary of the results yielded by the excavations in Laconia during the past session:—

*Sanctuary of Artemis Orthia.*—Great progress has been made with the work on this site. The plan of the Roman Theatre which was built for the use of spectators of the contests held in honour of Artemis Orthia can now be reconstructed with comparative certainty, and the proscenium has been found to be the front of a temple which probably dates back to the sixth century B.C. The interior of this temple and the arena have now been thoroughly excavated, and have yielded three strata of the Roman, Hellenistic, and Early Greek periods respectively, and three altars, probably corresponding in date with each period. The lowest stratum has proved very rich in archaic remains, such as early pottery, lead and terra-cotta figures, and some extremely interesting objects in ivory. The excavation and recording of these remains have involved a great deal of labour and care, but it is hoped that the results obtained will throw much light upon the history of early Spartan arts and handicrafts, about which hitherto little or nothing has been known.

*The Ancient Walls.*—The tracing of the walls of the city has been proceeded with, and their general course has been ascertained, mainly from the evidence of stamped tiles, as few stones remain *in situ*.

*Sanctuary of Athena Chalkioikos.*—The site of this sanctuary has been determined by the finding on the Acropolis of three roof tiles inscribed with the name of the goddess. The sanctuary, a very famous one in antiquity, was the scene of the death of the royal traitor Pausanias, who fled thither as a suppliant. Some Doric capitals and bronze nails, which most probably formed part of the building, have been found. The site has also yielded some interesting bronzes and pottery.

*Plans for the present session.*—It is intended to concentrate efforts chiefly on the Sanctuary of Artemis Orthia, where there is still much work to be done. An earlier temple than those yet excavated remains to be found, and further excavation will probably lead to the discovery of the Sanctuary of Elleithya, which is known from literature to have been near that of Orthia. Many other points connected with Spartan topography have still to be elucidated, and the sinking of trial pits in various localities will be proceeded with. A promising layer of geometric pottery on the Chalkioikos site will be excavated. It is also proposed to make preliminary trials with a view to discovering the sites of Helos and the Hyperteles Sanctuary.

The Committee feel that the selection of Sparta as a site for excavations has been amply justified by the interest and importance of the discoveries already made. Unfortunately, though every care

has been used in the expenditure of the money contributed, the Laconian Excavation Fund showed at the expiry of the School's financial year (2nd October last) a deficit of more than £40, and the cost of publishing the results obtained in the School Annual has entailed in addition a serious drain upon the resources of the School. The Committee hope most earnestly that further contributions will be forthcoming on a liberal scale to enable this most important task to be brought to a successful conclusion.

The excavations will be in the charge of the same able workers as last year, and the special knowledge and experience which they will bring to their work is a guarantee that any funds entrusted to them will be used to the best advantage.

It is intended to send out again special copies of the portion of the Annual which relates to the discoveries at Sparta to all who subscribe to this fund during the present session, and who do not, as subscribers to the general funds of the School, already receive the Annual itself.

The Committee appeal for £1,000 to enable them to continue the excavation work in Laconia. Subscriptions should be sent to the Hon. Treasurer, V. W. Yorke, Esq., The Farringdon Works, Shoe Lane, E.C.

### Crosby Hall.

The Chartered Bank of India, Australia, and China is spending about £1,000 in the marking, removal, and storage of the historical portions of the building with a view to the re-erection of the Hall on another site. Several offers have been made from private sources to reconstruct the building outside the City: these, however, have been refused, as it is desired that the reconstruction should take place under the auspices of some public body. The cost of rebuilding would be about £8,000.

### Building Mortars.

Mr. R. Gordon Nicol, harbour engineer, lecturing on "Building Mortars" at a recent meeting of the Aberdeen Architectural Association, observed that had it not been for the splendid stonework and mortars employed by the early architects few of their masterpieces would have survived at the present time. He classified the chief cementing materials used for mortars at the present day as pure limes, hydraulic limes, and cements, the term "hydraulic" being applied to a lime that sets or hardens under water as well as in the atmosphere. Caustic lime is the chief ingredient in each variety, but those which contain a percentage of clay in their composition before calcination or burning possess in a greater or less degree hydraulic properties, and produce the best and strongest mortars for building purposes. Common mortar is the mixture of pure lime with sand. It hardens by the absorption of carbon dioxide from the atmosphere, with formation of carbonate of lime, the

process of hardening being one of crystallisation. Having little or no hydraulicity, it is unsuitable for damp situations and foundations, and as the atmosphere rarely gets access to the interior of the masonry, it remains soft or merely dries without cementing value. The hydraulic mortars, on the other hand, have within themselves the whole of the ingredients necessary for crystallisation, and set hard in any situation. The limes that are sold in Aberdeen are high in caustic lime, and Mr. Nicol recommended that these should be increased in hydraulicity by the addition of Portland cement to the lime mortar immediately before use in the masonry. The lime mortar in Aberdeen is usually made in the proportions of one measure of lime to two or three measures of sand, and such mortar, if mixed with a small percentage of cement, shows great strength in a few days, where the mortar alone has little or no strength for a long period. Mr. Nicol explained a number of tests that had been carried out by him on new and old mortars in the city to discover the proportions of lime and sand actually used in these mortars. Analysis showed that the proportions in the older buildings were about one of lime to one of sand, whereas in some of the new buildings it was as high as one to three and a half.

**The late Edward William Mountford [F].**

Mr. ALEXANDER GRAHAM, F.S.A., *Hon. Secretary*, at the General Meeting of the 17th inst., announced the sad news of Mr. Mountford's death in the following terms:—I have with great regret—a regret which is shared, I know, by every member of this Institute—to announce the loss of our esteemed colleague Edward William Mountford, who passed away on the 7th February, in his fifty-third year. You are all aware that some years ago, while in the prime of life and in the fulness of his capacity, he was stricken with an illness which continued with him until the close of his career. You may also be aware that, though physically incapable of continuing those services which he had rendered the Institute for so many years as a member of the Council, and of taking an active part in everything relating to the promotion of architecture, he was able during his long illness to take his part in the work he had been entrusted with, and it was permitted to him to see the conclusion of his principal work—the new Sessions House in the City of London. I think, Mr. President, that, as a mark of respect to our esteemed colleague, it would be well if we could arrange for a display of his drawings in this room on some evening this Session that may be found opportune. There would, I feel sure, be no difficulty in getting a collection of these drawings. Our late colleague, as you know, was a man of considerable individuality, and this individuality is very marked in all his works. He was also very keen in everything that

he did as regards strict conformity to what might be called the common-sense view of architecture—that is to say, soundness of construction. Therefore, I think it would be instructive and interesting not only to the older members, but also to the students, if a collection of his drawings could be got together at one of the evening meetings this Session. In conclusion, it is my official duty to move that a letter be sent to the widow and relatives expressing our sincere sympathy with them, not only in the loss they have sustained, but also in the long years of anxiety they have undergone during the illness of our late colleague, and at the same time expressing our sincere appreciation of his work and of his meritorious career as an architect. I move this formally, feeling assured you will allow such a letter to be sent on behalf of the Institute.

Professor BRIDGESFORD PITE [F.], having asked leave to speak to the resolution, said:—The death of Mountford is a very serious loss to the Institute, it is a serious loss to the art of architecture, and I venture to suggest that it is a more serious loss to a large number of personal friends whom he made within the ranks of the Institute. Among those friends my brother and I can claim to be possibly the oldest in the profession, because Mountford was an articulated pupil of our father, and our knowledge of him probably extended a little before that period. All through his career I am sure—and I am only saying what everyone has felt who came in contact with him—that those who once knew him, and once felt that they had earned a place in his friendship, knew that nothing would ever happen to cool the sincere and earnest warmth of affection which everyone experienced who came to be one of his friends. Mountford's career was a very remarkable one. He was a man—I think I am speaking correctly in saying—with exceedingly few connections, a man who had to launch into life and to seek success unaided by the many auxiliaries which so often assist an architect. For some years after he had completed his educational course he had very little work to do, and he told me at one time that he contemplated taking up quantity surveying, but a steady perseverance in competitions gradually brought him to the point of achieving success almost as a habit, for when success began to fall to Mountford it fell frequently, one might almost say regularly, to his competition designs. I think the first success was a cottage hospital at Stratford-on-Avon—not a very important commission—but the success that he gained at Sheffield, I think in the year 1888 or thereabouts, was a very considerable success. A very difficult problem had to be faced in the planning of that building, and Mountford's design showed that he had what we must describe as a commonplace view of a difficult problem. He had the extraordinary faculty of reducing a problem which appeared to be difficult to commonplace simplicity and directness, and that absence of affectation which marked his life and

character, which marked everything he said, that simple directness, that almost genial bluntness of view, is expressed strikingly in his designs. None of his designs have any affectation of architectural splendour which does not arise directly and naturally out of the conditions of his design, and if you watch the connection of his plans and elevations I think the trace of his personality can be clearly seen. He attempted later in life more important architectural schemes with some amount of success, but there is always traceable in his work that enthusiastic love for the art of architecture which made one feel that the man enjoyed it. There were few things he enjoyed more than bringing his artistic friends and colleagues in the other arts, such as the art of sculpture, to work with him. He evidently felt that in working in fellowship with the sculptor and decorator he was exercising the best influence he could on the whole art of architecture for the benefit of his clients. Of course, that is shown very largely and very markedly in the great building in the City, where there has been a lavish if not glorious use of colour decoration and sculpture, which we hope is the precursor of similar combinations in great buildings. I had the pleasure of sitting with him on the Council of the Institute for many years, and around our board there was nobody whose gentle, humorous twinkle, whose clear, blunt English view of a difficulty could be enjoyed quite so thoroughly as his. You always knew where Mountford was; and the view he took of professional conduct, and of the relations one professional man should have to another, was always the view upon which he acted, a very high view indeed, and no one could have any doubt what line Mountford would take in any circumstances of difficulty. His work, without any doubt, will mark his generation. Although he has passed away prematurely, for his friends his was a full life, a life full of work, and a life full of influence, and the Mountford characteristics are undoubtedly the characteristics both in the education and practice of the generation he served. I venture very sincerely to support the resolution which the Honorary Secretary has proposed.

MR. H. D. SEARLES-WOOD [F.]: May I just add one or two words? I worked with Mr. Mountford as a colleague, and I found him in all things loyal and true-hearted; we never had a word of difference the whole time we were together. He was a sportsman in the best sense of the word; he played his game in professional life as a true sportsman, and never did a thing which anybody could be ashamed of.

THE PRESIDENT: It is not necessary for me to put this matter to the vote. A letter shall of course be sent on behalf of the Institute to the family of our lamented colleague in the terms suggested by Mr. Graham. It was my fortune to see Mr. Mountford for the last time in the large hall in the Sessions House. I had not seen him for some years, and it was very distressing to remark

how greatly his illness had changed him. There was, however, a certain satisfaction in remembering that one had seen him in the midst of his latest triumph, for the upper hall of the Sessions House is really a very noble room, and one can only say with regard to the decoration, especially the decoration at one end of the room which is entirely due to Mr. Mountford's selection, how very sensibly and how very highly he considered the sister arts of painting and sculpture. The painting in that room I look upon as a monument to Mr. Mountford's power of artistic discrimination, as showing that he knew how to select the proper men to carry out such work. The Sessions House is not only the latest, but, I think, is also the greatest work of our colleague.

Mr. Mountford was born at Shipton-on-Stour, Worcestershire, on 22nd September 1855. He was educated privately at Clevedon, Somerset, and was articled to Messrs. Habershon & Pite, architects, of Bloomsbury Square, in 1872. He began practising for himself in 1881, and in 1890 he obtained his first notable success, being placed first in the open competition for the Sheffield Town Hall. A complete list of his numerous important works is published in *The Builder* of the 15th February. Mr. Mountford took part in the recent competition for the new County Hall for London, being one of the eight architects invited by the London County Council to send in designs.

Mr. Mountford was elected Associate of the Institute in 1881, and Fellow in 1890. He served for fourteen years on the Institute Council, and was President of the Architectural Association from 1893 to 1895.

#### The late John Barnes Colson [F.]

Mr. John B. Colson, who died on the 21st ult. at the age of 57, was elected a Fellow of the Institute in 1892. He was born in Winchester, where his father—a fellow pupil of the late G. E. Street in the office of the late Owen Carter—practised as an architect, and held also the post of Architectural Surveyor to the Dean and Chapter of Winchester. Mr. J. B. Colson was in partnership with his father until the death of the latter in 1895, when, having acted as his deputy for some years, he succeeded him in the position of Surveyor to the capitular body. In 1896 Mr. Colson reported upon, and strongly urged that steps be taken for preserving, the vaulting of the nave of the Cathedral. This work was carried out under his superintendence, and by means of carefully designed supplemental roof trusses the crown of the vaulting was relieved of the weight thrown upon it by the sagging of the ancient tie-beams, owing to the fact that the various reconstructions of the roof in mediæval times had unduly weighted them. It was in consequence of the more recent

reports of their Surveyor that the Dean and Chapter undertook the extensive operations now in progress under the direction of Mr. T. G. Jackson, R.A., and Mr. Francis Fox as consulting engineer.

Among other works carried out under Mr. Colson's superintendence were several new churches in the diocese, besides additions to or reparations of old buildings. Among the latter Mr. Colson reported upon the defective foundations which were the causes of failure at St. Mary's, Cowes, Otterbourne Church, and Headbourne Worthy Church. He was also responsible for repairs at Odilham Church, the restoration of the decayed stonework at St. Thomas's Church, Newport, Isle of Wight, and the new tower and spire at Christ Church, Winchester. He quite lately prepared designs for a church to be built at Carisbrook, New Mexico, U.S.A., for the English colony there.

One of his most recent works was the enlargement, by the addition of a new nave and chancel on the south side, of the Church of All Saints, Compton, near his own home, and in the quiet graveyard of which he was laid to rest. In this work he was associated with Mr. G. H. Kitchen, a fellow parishioner, as joint architect.

In his capacity as an official of the capitular body Mr. Colson was frequently called upon to organise the seating or processional arrangements on the occasion of important functions at the Cathedral. These have included the enthronements of three bishops, the funeral of Bishop Thorold, the special services in connection with the octocentenary of the Cathedral's dedication and the celebration of the millenary of King Alfred. In his younger days Mr. Colson was a keen volunteer; he was one of the best shots in the 1st Vol. Batt. Hants Regt., and won many prizes at the N.R.A. and the county rifle meetings. He took a great interest in local parish matters, and was both a churchwarden and chairman of the Compton Parish Council at the time of his death.

#### The late Sir James Knowles [F.].

Sir James Knowles, K.C.V.O., the distinguished founder, proprietor, and editor of the *Nineteenth Century*, who died on the 13th inst., had been a member of the Institute nearly fifty-five years, joining as Associate in 1853, and proceeding to the Fellowship in 1876. He was born in 1831, was educated at University College, and entered the office of his father, the late J. T. Knowles, a Fellow of the Institute and Member of the Council. As a practising architect his career was one of promise, and he enjoyed some distinguished patronage. His principal architectural works included the Thatched House Club; Aldworth, for the late Lord Tennyson; and Kensington House, for the late Baron Grant—this building was pulled down after the Baron's bankruptcy, and Kensington Court now occupies the site. He also laid out the public garden in Leicester Square and designed

the fountain. The success Sir James achieved in quite a different vocation is well told in *The Times* obituary column of the 14th inst.: "Though he was himself neither a scholar, nor a writer, nor a philosopher, nor a debater, he was keenly alive to the interest attaching to the things of the mind; and he enjoyed nothing so much as to bring clever men together and hear them discuss the serious problems of life. Hence arose his first memorable creation, the Metaphysical Society, in which men like Huxley on the one side and Cardinal Manning on the other met on neutral ground, and quite amicably fought the battles of thought. This society was born in 1869, and next year Knowles definitely came before the world as an editor, his first organ being the *Contemporary Review*. This he conducted from 1870 to 1877, when he and the proprietors parted company, and he made the great venture of his life, which soon brought him both fame and fortune—the *Nineteenth Century*. From the beginning this was a great success, for it was carried on by a man who, whatever his limitations, combined in a remarkable way a sense of what interested the educated public with the keen eye of the man of business. Knowles's two great supporters were Tennyson and Gladstone, and both helped him to make the first number of the new review the most weighty, and the most attractive, that periodical literature had seen for many a long day." Sir James received the K.C.V.O. from His Majesty during a visit to Sandringham in 1903.

#### Honours and Appointments.

At the distribution by the Italian Ambassador of the awards of the Milan International Exhibition of 1906, the following architects were among the recipients of honours: Mr. C. Harrison Townsend [F.] (juror), Diploma di Benemerenzia; Mr. Edwin T. Hall [F.], two gold medals; Mr. H. Percy Adams [F.], gold medal.

The Secretary of State for India has sanctioned the appointment of Consulting Architect to the Government of India as a permanent arrangement, and Mr. John Begg [F.] will be the first holder of the permanent office.

Mr. Norman C. H. Nisbett [A.] has been appointed Architectural Surveyor to the Dean and Chapter of Winchester, in succession to the late Mr. J. B. Colson, his former partner.

Sir A. Brunwell Thomas [F.] has been appointed Hon. Architect to the National Society of Day Nurseries.

At the last meeting of the Estates Governors of Dulwich College Mr. Edwin T. Hall [F.] was elected Chairman.

It was omitted to be mentioned in the last number of the JOURNAL that the photographs of the Grinling Gibbons carving reproduced on pp. 433-36 are the copyright of Messrs. H. H. Marlyn & Co., of Cheltenham.

## COMPETITIONS.

## Pontypridd Union Offices.

The conditions of this competition being wholly unsatisfactory, members are requested not to take part in it.

EDMUND WIMPETIS,  
Hon. Sec. Competitions Committee.

## LEGAL.

## Architects' Remuneration: The Institute Scale.

In the King's Bench Division on the 18th inst., before Mr. Muir Mackenzie, Official Referee, judgment was given in the case of *Horton v. Hemley*, which raised the question as to whether the scale of remuneration for an architect as laid down by the Royal Institute of British Architects was a binding scale in all cases in the absence of a special agreement. The plaintiff was an architect, and claimed remuneration for designing and supervising the construction of a large building which the defendant was erecting, and compensation for the discontinuance of his employment, to the amount of £6,000. The defendant pleaded that he was justified in discontinuing the contract, as the plaintiff had failed in several ways to fulfil his obligations as an architect, and, further, that the plaintiff had already been sufficiently remunerated by £1,000 already paid to him, or, in the alternative, by that sum and a further sum of £760 which the defendant paid into Court.

The case is reported in *The Times* of the 17th inst.

Mr. Muir Mackenzie, in delivering judgment, pointed out that the circumstances of the plaintiff's employment were not quite ordinary, since in this case he had not, after preparing the plans, to act as the defendant's agent in supervising the work of an independent builder, for the defendant was himself an experienced builder, and was to have the plaintiff's plans prepared and submitted to him, when the defendant was to obtain contracts for some parts of the work, and other parts he was to carry out himself. In fact the plaintiff was rather to take directions than to give them. The several allegations made in the defence that the plaintiff had not complied with his obligations as an architect were dealt with in detail, and judgment was given in favour of the plaintiff on those issues. As regards the proper scale of remuneration to which the plaintiff was entitled, Mr. Muir Mackenzie said that the general rule was as follows:—If, after part performance of his work by an architect, the employer refuses to continue the contract of employment, the architect can recover all sums due for services rendered before refusal, and for what he has lost by not being permitted to complete the contract of employment; or the architect may treat the contract as rescinded, and recover the value of the services he has rendered. Continuing, Mr. Muir Mackenzie said that the plaintiff alleged that, in addition to some charges for extra work by reason of the defendant's refusal to go on with the contract of employment, he was entitled to remuneration on the scale prescribed by the Royal Institute of British Architects, as applied to the special circumstances of the case, and in effect contended that a jury, or referee, is bound to award remuneration on this basis, notwithstanding that on the evidence, and in the opinion of the jury or referee, the value of his services rendered is less in amount. The Judges, in directing juries, have repeatedly declined to be bound by this rule, unless this scale of remuneration has been expressly consented to, or it has been established that the owner has known that in employing the architect he would be charged in accordance

with this scale. Lord Chief Justice Coleridge in *Burr v. Ridout* (*The Times*, 22nd February 1893) said:—"You may adopt the scale if it would be a fair remuneration or compensation, but not as a binding scale; to do otherwise would be to allow the architects to tax their own charges." In *Gwyther v. Gage* (Hudson, Vol. II., p. 21) the scale would have given the architect in the circumstances of that case 2½ per cent. The Judge awarded a sum which worked out at 1½ per cent. The plaintiff here claims, by applying the scale, a sum equal to 4 per cent. on £122,500, together with some extra charges. I do not adopt that scale for two reasons. In ordinary circumstances, having regard to the fact that the defendant had built a large building in London before, and probably knew, or at any rate must be taken to have known, the scale on which architects base their charges, I should have been disposed to find that the defendant acquiesced in the scale so far as applicable. But in this case the defendant, as I find, never intended to be bound by the charges of the scale in employing the plaintiff. The plaintiff had offered to do all the work for a remuneration at 3½ per cent., and the defendant did not agree to employ him at a higher rate. Secondly, the scale, in the manner in which the plaintiff seeks to apply it, awards him a remuneration in excess of what is reasonable or just in the circumstances. Further, whatever rate is to be applied, it cannot be based on £122,500, being the estimated cost of the building. That sum may be the proper cost of the building as designed by the plaintiff; but the works were not carried out under a contract with a builder for a specified sum, and the defendant had a right during the progress of the work to make alterations for the purpose of reducing the cost. The learned Official Referee found that 3½ per cent. on the cost of the entire work, which he estimated at £90,000, was an adequate and sufficient remuneration and compensation in the circumstances of the case; and judgment for that amount, less the £1,000 already paid and the £760 paid into Court, was entered for the plaintiff accordingly.

## MINUTES. VIII.

At the Eighth General Meeting (Ordinary) of the Session 1907-08, held Monday, 17th February 1908, at 8 p.m.—Present: Mr. Thomas E. Collett, *President*, in the Chair; 30 Fellows (including 10 members of the Council), 31 Associates (including 1 member of the Council), 1 Hon. Associate, and numerous visitors—the Minutes of the Meeting held 3rd February [p. 238] were taken as read and signed as correct.

The decease was announced of Sir James Knowles, *Fellow*; and Professor Meldahl, of Copenhagen. *Hon. Corr. Member*.

The decease was also announced of Edward William Mountford, *Fellow*, and reference having been made by various members to the personal worth of the deceased, and the high quality of his work, it was resolved, on the motion of the Hon. Secretary, that a letter be sent to the widow and relatives of the late Fellow, condoling with them in their bereavement and in the anxiety his long illness had caused them, and expressing appreciation of his work and of his meritorious career as an architect.

The following Associate attending for the first time since his election was formally admitted by the President—viz. Walter Godfrey Green.

A Paper by Mr. Francis Fox on FOUNDATIONS, THE USE OF DIVERS AND THE GROUTING MACHINE, having been read and illustrated, the subject was discussed, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

## REVIEWS.

## TOWERS AND SPIRES.

*Towers and Spires: their Design and Arrangement.* By E. Tyrrell Green, M.A., Professor of Hebrew and Theology and Lecturer in Architecture at St. David's College, Lampeter. With 129 Illustrations from Pen-and-ink Drawings by the Author, and 2 Maps. 8s. Lond. 1908. Price 10s. 6d. [Wells Gardner, Darton, & Co., Ltd., 3 Paternoster Buildings, E.C.]

This is a pleasant-looking book of 294 pages, well printed on good paper, light in the hand, containing 129 illustrations from pen-and-ink drawings by the author, and properly indexed. Its real scope is far less extensive than the title: it professes to deal with all towers and spires, but really it is mainly a description of examples existing in England and Normandy, with the addition of some from other parts of France and the Netherlands and a few from Germany and Italy. Spain and Portugal do not appear to be credited with the possession of towers and spires. A scientific and comprehensive treatment of the whole subject would be very welcome. To such a treatment the present volume makes no pretence—e.g. very many Romanesque towers in France are referred to, but there is no attempt to divide them into schools, though there exists an admirable article by Viollet-le-Duc on the schools of tower-builders. Nor, again, are the relations of tower design to the schools of Continental Romanesque set forth. The architectural provinces of Continental Romanesque have been demarcated by M. Anthyme St. Paul, M. Choisy, Professor Dehio, and others, and the characteristic tower design of each school may now be made out with but little difficulty. Moreover, like the handbooks of Gothic architecture that have so long held the field, architecture is almost wholly dissociated from building construction; e.g. the octagonal central tower is discussed, but no attempt is made to co-ordinate its form with the presence below of a masonry dome resting on eight supports—four walls and four squinches or pendentives. Our old friend the "Byzantine" is dragged in—this time into Ireland to build round towers. Like that blessed word "Mesopotamia," it is a name to conjure with. But one would like to know where he landed and where he sailed from; how was it that he came at all; whether the Irish welcomed him with triumphal arches, or, *more Hibernico*, smote him on the head with a fylfot or a swastika. Why employ Byzantines to carry round towers from Ravenna? The wild Irish of the tenth century built round towers simply because they could not build square ones, not having learnt yet to dress stone—the early round towers of Ireland being constructed with rough field stones untouched by hammer or chisel, not rounded, but fitted by their length to the curve of the wall, wide-jointed, with small stones fitted into the interstices. So,

again, quite in the old-fashioned way, we read that "the Gothic style had reached its culminating point in the fifteenth century, and decay had already set in." This is just the kind of thing Mr. John Ruskin would have said, adding in a second edition, "This is nonsense." It is as who should judge a man by his buttons, and should assert that decay had already set in because he had developed his muscles to such an extent as to burst his buttons. If people would study Gothic building construction instead of Gothic architecture, they would find that, so far from decay having set in, vast developments were in the air, hardly realised at the time, still to be realised by Gothic constructors who will take the trouble to study Gothic construction *au fond*. Nevertheless, do not let me be supposed to say that the book has not considerable merits: it is clearly written and interesting, and puts together a great number of facts. The illustrations are numerous, and many of them are good. One thing we might mention. At Fécamp, Louth, and Woolpit—the latter, by the way, is modern—the tower or spires are shown with a marked list to the north. Are we to understand that this is an "intentional refinement"? Or shall we rather accept the symbolic parallel of the deviation to the north of the axis of chancels?

FRANCIS BOND [H.A.].

## HERALDRY.

*Heraldry as Art.* By G. W. Eve. 12s. 8s. 1907. Price 12s. 6d. [B. T. Batsford, 94 High Holborn.]

Heraldry has been aptly and pithily described as "the symbol of a name." It is, or should be, both an Art and a Science, but there is often among the best-intentioned of its delineators a temptation to separate the two. This, however, should be an impossibility: the two attributes *must* go hand in hand. This book, well and logically written, artistically illustrated, printed, and got-up, does not greatly err as to that point: there are some violations of it, specifically avoided in the introductory remarks, by the use or abuse of shields charged with crests, helms, and mantles (pp. 220-221); here the science is somewhat ignored for the sake of the art. "Decorated" shields, however beautiful, cannot consistently be defended, being opposed to the scientific side of heraldry altogether; crests, helms, and letters have no right to be there, and even for "badges," so far as I know, there is no ancient authority for their appearance on a shield, though they may *per se* be heraldic "charges." The book gives examples of, and in, all sorts, sizes, styles, dates, and materials, and so supplies a long-felt want. As "Art" it can in no sense be said to belie its title. The "science of fools" has the sting removed when the diligent student can readily assure himself that it takes a wise man to make one! A very wide field of investigation has evidently been traversed at the author's hands, and

the cost brings it within the reach of such who may seek for guidance of a practical kind in dealing with its manifold possibilities.

No mention is made of a talented but much-forgotten delineator of heraldry, the late John Cleghorn, who died at a very advanced age, working to the last; his woodcuts in *Shirley's Noble and Gentle Men of England*, and many another fine book, are specimens of good heraldry combined with good design. I have in my possession many beautiful India proofs of his delicate, correct, microscopic, and most artistic work. There is also unrepresented the work of Miss Sophia B. Moule, whose woodcuts, illustrating her father's well-known book, the *Heraldry of Fish*, 1842, are hard to beat. While alluding to the "trick of arms," those in Dugdale's *Warwickshire* deserve some mention as well in advance of their time.

The diagrams (p. 83) are of much value, suggesting, as they do, a good way of covering the field of a coat-of-arms, a point sorely missed in much modern work. Excellent practical examples (pp. 131-2) for avoiding absurd treatment of the crest are given. The crest is often out of all scale with the helm supporting it. The "impossibility" of much modern heraldry is well and correctly stated by Mr. Eve. I question the correctness of fig. 239, described as Beaumont: it is the Royal coat in a bordure; that of Beaumont is "azure, semée de lys, and a lion rampant or." The tomb at King's Langley is fraught with the best possible suggestions for treating modern work, being not only good heraldry but good design too. The De Brewys Brass (p. 184) might well inspire towards a design for a successful modern one, of which we have none too many; so also may the armorial wood carving at "the Vyne," near Basingstoke (p. 211), give full inspiration of a noble kind towards satisfactory modern work. The bed-cover (p. 264) is very beautiful and appropriate. The remarks about the superiority of the "Tilting Helm" over the more modern forms are singularly naïve and *à propos*. The French examples from Blois, and certainly no less one from the Percy shrine at Beverley, give us a mine of suggestion as to what may be safely taken into account in our studies of the very best.

Pugin's designs for heraldry in glass, by whomsoever worked out, need no defending; there is little if any modern design better as a whole than his. The heroic De Bohun Swan combines the bird as he is with the bird as he was with great fidelity both to art and nature; and though the tinks of "the pig" may be a trifle long, they are, I believe, not without precedent. The production of these cartoons from the Houses of Parliament is of immense value to the draughtsman, nor are the designs at all at variance with the traceries in which they occur. Other good modern examples in glass, by the late James Bell, are to be found in the great hall of the Law Courts.

The wonderful heraldries in bronze around the

tomb of Kaiser Max at Innsbruck, in the cathedral of Mainz, in the glass of the north side of Cologne Cathedral, at Rothenburg, Prague, Nuremberg, and very many other cities, so full as they are of fine old examples, will furnish Mr. Eve with ample materials for a second volume.

German heraldic design, suitable as it undoubtedly is for its own work, is often rather inclined to become "sprawly" and over-pictorial when applied to our own phase of the science, unless our limitations are duly guarded against; but this, with a little care and arrangement, may readily be done. Malvern Priory Church would alone supply what is lacking as to the right use of design, so far as tile-work goes; recent alternative fads have somewhat put them out of court as floorings.

The fireplace, "the altar of the home," is one of the best positions for a worthy display of good heraldry.

The so-called "ducal" coronet, described by Boutell as a "crest-coronet," and the "lion of England," a term used for brevity's sake, are both heraldic rather than titular distinctions. As charges in decoration heraldic forms and colours are always satisfactory, because full of meaning; they are also always right in principle as to colour-effect, whether as colour decorations, carvings, or fabrics, when rightly done; they never fail to interest and satisfy both possessor and spectator, and their embodied sense of mystery is an added charm; like music, they seem to secure the greater reverence from those who are but partly initiated into their secrets.

Burges's shields at Cardiff Castle, Nesfield's heraldries at Combe Abbey and elsewhere; the fine coats at Arundel Castle; the works of the late John Bentley, the late G. F. Bodley, and Mr. J. N. Comper; Mr. St. John Hope's book on the Garter plates at Windsor, and Mr. Forbes Nixon in *Foster's Peerage*—all go to show clearly that neither as art nor science is heraldry yet defunct. In a small way, too, I have done what I could, and would strive to do more had I the opportunity.

Those who are the greatest boasters are frequently those whose family evidences are of the very youngest and most meagre, and their landed estates (the old test of position) *nil*. Even they who have lost all are treated by such as those who never had. The thankfulness to Providence for such blessings is apparently non-existent nowadays; but this was not the mediæval method. What a man has, rather than what he is, is the general standard of rank now. It is somewhat singular that those best entitled to bear arms are shy at doing so, as if something more to be ashamed of than thankful for. Our German neighbours, on the contrary, see nothing incongruous in it. Why should they?

Mr. Eve's book has but to be well studied and carefully read: when this has been done, it can

hardly fail to be fully enjoyed and appreciated alike by the student as by the seasoned, but not case-hardened, herald himself. Of course a work of this nature cannot claim to be entirely novel; one must tell again what other authors have already told us.

Scientific heraldry is often correct but ugly, and artistic heraldry is likewise beautiful in form, line, and colour, but may at the same time be incorrect from the scientific standpoint. Liberty must never degenerate into license, nor should occasional accidents of that nature in a few old and obscure examples be quoted as precedents; in the words of Shakespeare, "A friendly eye could never see such faults; A flatterer's would not, though they do appear as huge as high Olympus." "Religion" was quite as closely connected with the twofold character of heraldry as ever was "family pride." Indeed, in old days both art and science were much connected with "faith." They are less so now.

Finally, the works fully gone into and described, as well in form and line as in material, stone, marble, metal, wood, glass, enamel, fabric, cannot but secure much gratitude for the obvious benefits conferred on the workers in such materials by this essentially practical essay; broadcast examples, from the best sources, early and late, are abundant. To such of us who have at all studied the heraldries of the Continent—*e.g.* France, Germany, Belgium, Holland, Spain, and especially Austria—but one conclusion can be arrived at, that each of these nations has its own special point of excellence. Our French neighbours have been pretty keen, inasmuch as, so far back as the year 1837, two volumes, by M. Rey, on the fleur-de-lys alone had appeared.

Therefore Mr. Eve's book should not only be well read, but should do very much towards the fostering of others, and so continue the demand for and the supply of those charms in a subject practically inexhaustible. May he, for one, be induced to give us at a future time some further evidences of his skill and taste!

E. SWINFFEN HARRIS [F.].

### SCHOOL BUILDINGS.

*Les Constructions Scolaires en Suisse, Écoles Infantines, Primaires, Secondaires, Salles de Gymnastique, Mobilier, Hygiène, Décoration, etc., etc. Par Henry Baudin, Architecte. 40. Geneva, 1907. [6 rue Saint-Ours, Geneva.]*

This volume may be said to be one of the most complete works of its kind published in any country. To the English student the fact of its being written in French must naturally create a certain drawback, but when this has been said, all has been said, as the exceptionally fine illustrations in the majority of cases go far to explain what the author wishes to bring home in his text.

That M. Baudin has treated his subject in an

exhaustive manner a glance at his work will show. The buildings of his own country naturally take precedence, but in describing these he has not overlooked comparison with the works of other lands; and the chapter "Plans comparatifs d'écoles de divers pays," page 131, is full of interest and information to all who are called upon to devise new methods or suggestions in planning the buildings now being erected in this country for the purposes of elementary education.

What strikes one more than anything when reading M. Baudin's work is that English planning, although possibly still somewhat behind-hand as regards certain points—such as the incorporation of the spray-bath, the grandiose appearance of the entrance-hall and corridor, and such rooms as kitchens, music-rooms, and art-rooms—is otherwise superior and more workman-like in its placing of the entrances, the cloak-rooms, and the offices, especially the latter, which in the majority of Swiss schools are to be found within the building, and without efficient cross-ventilation as understood in this country.

I think that architects are to be congratulated upon having such a book to refer to, and that M. Baudin deserves our best thanks in undertaking such a work, thus giving us a further opportunity for obtaining much fresh information upon a subject which is of the first importance at the present moment.

ARTHUR H. RYAN TENISON [F.].

### BACK TO THE BACK LAND.

*Town-planning in Theory and Practice. Papers and Speeches by Various Authors. Price 1s. net. [The Garden City Association, 602-3 Dorkbeck Bank Chambers, Holborn, W.C.]*

This little book is a report of a Conference held at the Guildhall last October. It consists of the speeches delivered at that Conference, four Appendices, and an Introduction by Mr. Ewart G. Culpin, Secretary to the Garden City Association.

In the Introduction it appears that there are no opponents to town-planning, which is surprising; and that small boys who go unwillingly to Council schools (type C) are not so big for their ages as small boys who go equally unwillingly to Higher Grade schools, which is not surprising considering that in all probability the former are underfed, while the latter eat too much. The weight of schoolboys and other statistics, however, are here quoted in view of their bearing on town-planning, and the idea appears to be that even if children have not enough food they must have enough air. Very well. Let municipal land purchase, municipal town-planning, and municipal housing supply that air, and thus "rear a future generation of the John Bull type." Every sympathy is due to any effort to improve the condition of the poor, but of course

John Bull was not bred in garden cities or in municipal cottages (third class) estimated to cost £150, not including architects' fees, builders' profit, fences, fixtures, &c.

Turning to the Conference, it was opened by the Lord Mayor and attended by large numbers of men who have thrown, and will continue to throw, their keenest thought, profoundest knowledge, and most generous sympathies into a fight against the dirt, disease, and demoralisation which is to be found in all our great cities. The resolution before the Meeting was as follows:—

That this meeting of municipal and local authorities and societies and others interested in Housing Reform and Town-planning, affirms its belief that the present planless and haphazard extension of towns is detrimental to the best interests of the nation, inasmuch as, by the creation of new slums and overcrowding, it produces mental, moral, and physical degeneration, and is also burdensome to the ratepayers; it therefore calls upon all parties to welcome the Government's promise of legislation upon the matter. This meeting urges, also, the great advantages which would result if, wherever possible, a belt of agricultural land could be retained around or in the neighbourhood of any new suburb or town which may be built to relieve the congestion of the urban population. It would further urge the importance of dealing with the problem of rural housing.

The promise of legislation here welcomed was reiterated in the King's Speech the other day in the following terms:—A Bill "to amend the Acts relating to the Housing of the Working Classes, and to regulate the laying-out of land needed for the development of growing urban centres."

In moving this resolution Mr. J. S. Nettlefold predicted that the promised legislation would be designed to "encourage, assist, and control . . . our most important native industry," as he very aptly styled the building trade. "The operations," he remarked, "of this body of house-builders are at least ten times as large as those of all the semi-philanthropic societies and local authorities put together." But these operations are hampered by "the waste now caused by inelastic by-laws," with which most of us will agree. Moreover, one may hazard the opinion that they are further checked, if not stopped, by semi-philanthropic and municipal competition. That opinion is quite by the way, but it may serve to indicate a cause of the housing difficulty, and perhaps to hint at a possible solution.

The same speaker gives a picture of town-planning in full swing, which is full of detail but not quite clear:—

A town-extension plan contemplates and provides for the development as a whole of every urban, suburban, and rural area likely to be built upon during the next thirty or fifty years. Wide avenues are provided for the main traffic between the centres and the outskirts, narrower streets for ordinary traffic, and again narrower and less expensive roads or drives for purely residential quarters. Parks and small open spaces and playgrounds are provided for beforehand, instead of waiting till the land required has risen to an impossible price, and in a sensible plan these lungs are

located on back land, not on valuable frontage, as is so often the case to-day in this country. Districts are allocated for factories on the opposite side of the town to that from which the prevailing winds come, and here there are railway lines, and where possible, water communications. The future town is divided into zones, high buildings close to each other are allowed in the centre and on main arteries. In residential districts buildings must be lower and more dispersed the further they are from the centre of the city or its main arteries.

In order to accomplish all this the population which now occupies one million acres should spread itself over the thirty million acres available. The order of the day is to be centrifugalisation. A rather tall order, but somehow Mr. Nettlefold's picture seems broadly to tally with the natural development evidenced in most existing cities, excepting that there are no slums.

Unfortunately, there seems to be more demand for slums than for fresh air. Some of the very poor simply will not live in workhouses, almshouses, artisans' dwellings, municipal cottages, or anywhere else, excepting the ordinary buildings and lodgings supplied by the market in the ordinary way. Perhaps this is due to a touch of spirit in the slums, but that is no reason why the poor should object to fresh air. The fact remains, however, that one seldom sees a cottage window open.

The discussion which followed dealt, not only with town-planning, but with municipal land purchase, housing the working classes, amending the by-laws, Government loans, school buildings, small holdings, the Traffic Commission, the preservation of historic buildings, and other kindred matters.

Everything in the book is, or is intended to be, in favour of the resolution, but much confusion of ideas is noticeable. Through it all, however, there is a pitiable attempt to prove that the great reforms which are advocated can somehow be obtained for nothing. This being so, it is refreshing to come to the frank, common-sense of Mr. H. Rider Haggard. He will pay landowners a fair price for the lands required, only he will not ask cottagers to pay a fair rent. He will drop upon the Exchequer for some of it—which course he tries to justify on the ground of Imperial duty. His experience is that "cottages are not built because it does not pay to build cottages," excepting that "landowners do provide sufficient cottages for their own people." From which it may be gathered that those people are worth housing, and thus pay their rent in kind or take part of their wages in kind.

Some interesting points were mentioned by Mr. T. C. Horsfall, the author of *The Example of Germany*, and among them the fact that England, the United States, and France were the only civilised countries which had not town-planning such as existed in Germany. He thought that as it may, most people will agree that France has got along very well without it; and as for the Americans, one may not like their plan, but they certainly have a plan—a plan stretching far over the prairie

where I well remember seeing city blocks marked only by vegetated quadrant kerbstones. There, indeed, "lines are fixed for streets to meet the foreseen needs of the future," but those lines show neither beauty nor intelligence. It should be encouraging to architects to find that so influential a meeting is held to point out the advantages of intelligent planning, and that reciprocity of confidence is established between architects and town reformers.

The R.I.B.A. was ably represented by Sir Aston Webb, who spoke of the work of the Towns Planning Committee, and said that the Royal Institute was entirely in accord with the resolution; but he very properly added that "the legislative side of the question and the powers for carrying it out were, of course, not within their province." It is clear that something is rotten and that something must be done, and this is nowhere more vividly expressed than by Sir Aston:—

All agreed that these insanitary areas should be removed; all knew that at the present time enormous sums were being spent in clearing away these insanitary areas; and yet they saw being created under their eyes and noses similar insanitary areas a little further out of town. They all knew that the next generation would have to spend large sums in order to clear these out, with the result that they would merely go a little further, and the next generation would be put to the same cost over again. That surely was not a right way of dealing with so important a matter.

One sincerely hopes that a right way will be found, but the procedure suggested by Mr. Thomas Adams and other delegates does not strike one as fair. It is something of this nature:

- Restrict the number of houses per acre to reduce the value of the land adjoining towns.
- Buy the land thus depreciated compulsorily, but without compensation for compulsion.
- Borrow the money on the eighty years' system at rates of interest below market prices.
- Lay out narrow roads and open spaces on back land.
- Erect cottages and let them at a loss.
- Pay no taxes.
- Attract the population from the old town, and thus convert every slum into a slump.
- End the old houses at the expense of their owners, and thus ruin the people who have been rated and taxed to produce the money to carry the scheme through.

Nor does it seem to be fair to lay out the land on extravagant lines for landlords, whether they like it or not. Mr. P. Thomas thought that this would be all right, because intending purchasers would be able to ascertain the restricted possibilities of the land before they bought it; but clearly the loss would thus only be shifted on to intending vendors.

The Appendices give further explanation of the matter in concise form, and deal with experiments

which are illustrated by plans. The plans are of too small a scale to be of any value, but, magnified, one appeared to consist of fine squares and roadways with truly rural names. Closer inspection showed that they were only dotted lines. But then town-planning is a policy of dotted lines. No doubt the supply will continue to meet the demand, but it is hoped that it may be brought to do so along dotted lines.

There are many people whose frame of mind is more or less expressed by the question, "What is all this one hears about town-planning anyway?" and to them this book will appeal. It is very handy and costs but a shilling. In it they will find a lot of information as to the circumstances which have given rise to what is known as the housing problem; as to the efforts which have been made, and are being made, to deal with it; as to the ideals of simple life, fresh air, sunshine, and elbow-room for all which are held by reformers; and as to the proposed legislation by means of which those reformers hope to make a step towards the realisation of those ideals. But they must not expect to find a solution of the problem. Perhaps when they have read the book they will help to find it.

J. NIXON HORSFIELD [A.].

## THE STORY OF A WOODCARVER OF ST. PAUL'S.

[Communicated by Wm. J. GRIBBLE [A.].]

The following is a copy of a manuscript preserved in the British Museum. It is a letter written by an ingenious country lad—Phillip Wood, from London—in 1699 to his "sweet mistress, Hannah Haybittle," only daughter of Ralf Haybittle, at Sudbury, Suffolk, describing the means he adopted to procure employment as a carver at the works in St. Paul's Cathedral, then erecting by Sir Christopher Wren, and runs thus:—

No. 9 Ivy Lane, London: Sept. 3rd 1699.

DEAREST HANNAH MY SWEET MISTRESS,—Pray God that this may find my own sweet heart and life well. I hope James Herbert put into your hands one letter which I sent. I gave him the letter myself, and he promised most faithfullie to find occasion to convey it to you. I know, my dear Hannah, you think it both hard and wrong to hide anything from the knowledge of so kind a father as yours. The waggon returns into London on Tuesday, so I went to the yard in Bishops-gate and waited for it to arrive.

At last I heard the bells; and Jim Herbert, as he turned under the gateway, smiled at me pleasantlie as he said, "Wait a bit, young chap, I have somewhat to say to thee." After a while he came to me, and told me how he met you walking on the croft with your maid Susan, and how he contrived to give you my packet unseen of her—to think of such craft under a waggoner's frock!

But no letter from you.

He says that you looked well, and seemed happy to receive my letter, and I am contented. But had you no opportunity to write one line? I know how it is, dear Hannah; you dislike any artifice.

Indeed, it is hardly right for me, who owe so much to your good father, even the ability to write this, as he sent me, a poor Orphan, to the free School, it is hardly right for me to tempt you in this matter.

I can no longer put off telling you the good news: God has, indeed, been good to us. Little did I expect such happiness when I left Sudbury last May; that morning when I looked for the last time from the hill I thought my heart would surely burst, and at one moment I was inclined to turn back; but then came to my mind what kind neighbour Smith should say she heard your Father say about London, so I plucked up courage, and walked very fast over the Tye. Dear Hannah, it is a very sad life to be alone in a great City. At Sudbury, I did contrive to see you, though at a distance, every day, and I could walk in the pleasant fields and think about you, and read Master Shakspeare his plays which you gave me, and which truly have been laterlie with my Bible my onlie comfort. In the evening I could pass your house to catch a glimpse of your shadowe on your easement, or to hear your spinet sounding; and sometimes I found the neighbours showing the carvings to a farmer or two who had been to market; and it was sweete to my poor vain heart to hear them tell how the rich Merchant Master Hayhittle retired from London to his native Town, and bought a House, and employed a poor young man who showed some taste for such matters, to carve upon the wood work, elephants and lions, and other wonderful beasts from the distant lands where he used to send merchandise—then all said the carver must go up to London and become a great man.

Well, I got to London, but no one would employ me, and my little pittance of money got lower and lower; and I used, for want of employment, to go to the Churchyard of St Paul, and watch the Building, which will certainly be one of the wonders of the world. Suddenly it struck me one day, they would surely put into such a grand building, carvings such as I have often seen at Melford and the other churches; and I spoke humbly to the foremen, but they repulsed me, saying, "we want no hedge-carpenters here." Nevertheless, I went day after day to look on at a distance; and a week yesterday, as I stood as usual, in great admiration, a gentleman approached, with papers in his hand, and he talked with the work people; and at last his eye fell on me, and he said to the foreman, "What does that young man want? I will not have any person about here unless they have business." And the foreman answered, "Please you, Sir Christopher, he is a country fellow, who continually troubles us to give some of the carving work to do." On this the gentleman who I then knew to be the great Architect, beckoned me to-wards him, and said, "Friend, you want carving work? What have you been used to carve?" Hannah, indeed, you will hardly credit it, but I was so much confused that, forgetting everything but what I earned my bread by whilst I was in the country, I answered, stammering, "Please, your lordship, Sir Christopher, I have been used to carve troughs." "Troughs?" said he; "then carve me, as a specimen of your skill, a sow and pigs; it will be something in your line; and bring it to me this day week. I shall be here." On which

he went away smiling and all the foremen and work people burst into loud laughter.

I do not know how I reached my lodgings, but when I did I threw myself on the bed, and shed bitter tears, and reproached myself for losing such an opportunity of explaining what I had done on your father's house.

In the evening the good Quaker woman whose back-garret I rent, came up stairs, and, entering my room, said, "Friend Phillip, I have not seen thee since morning; I fear thou were ill; see, I have brought thee some broth." But I could not touch it, so she said, "Tell me, I pray thee, thy trouble; it may be I can help thee." So I told her, and she said, "Thou art wrong, for if the man who is building that great Steeple house requires such and such a thing done, why, if thou really hast skill, it will be showed as well in that as in any other matter."

Her words were comforting to me, and I sat up on the bed, and ate the broth, and then I took my last guinea, and I went out and bought a block of pear tree wood, and worked at my task continually; and yesterday morning I dressed myself in my best, and wrapping it in an apron, borrowed from my landlady, I went to the building.

The work people jeered me, and pressed very much that I would show it to them, but on no account would I do so. I waited two or three hours, and then it was rumoured that Sir Christopher Wren was arrived with a party of the quality to whom he was showing the building. At last he and the rest passed where I stood, but when I would have gone forward to speak with him, the foreman and others would have hindered me, saying, "This is not the proper time; you may see that Sir Christopher is otherwise engaged." But necessity made me then bolder, and I said, "He himself appointed me this morning," and I pressed through them. Directly his eye caught me, he beckoned, and I went to-wards him, and I bowed and midid the apron, and presented the carving to him. For a minute he held it in his hand—Oh! dear Hannah! what an anxious minute! and then he said, "I engage you, young man: attend at my office to-morrow forenoon."

Then he walked on with the party, still holding the sow and pigs in his hand, but when he got a little distance, he turned round and said, "Wait untill we pass back." So I waited; and when they returned, Sir Christopher came up to me, and said, "Mr. Addison" (I think he said "Addison" or "Addington") "would like to keep your carving, and requests me to give you ten guineas for it." I bowed and then he said, "I fear I did you some injustice, young man; but a great national work is entrusted to my care, and it is my solemn duty to mind that no part of the work falls into inefficient hands." So I bowed and ran home, and my kind landlady was also overjoyed.

This morning I have been at the office, and I am indeed engaged to do carving in this most wonderful building.

I leave at your discretion to acquaint your father of this matter, and if you would write to me only one line, it would increase the happiness of, Dear Hannah, your faithful servante untill death

PHILLIP.

It is added:—

The following notice of Phillip's further career appears in the Report of the Commissioners of Public

Works, respecting the building of St. Paul's Cathedral:

Phillip Haybittle, subpoenaed from Sudbury, Suffolk, deposed that he received certain sums of large amount as per receipts, given during the years 1701-2-3-4-5-6-7 for carved work in the Cathedral Church of St. Paul. On inquiry from their honours the Commissioners respecting the difference betwixt his name and the name on the various receipts, the said Phillip Haybittle deposed that he married Hannah, only daughter of Itall Haybittle, some time a merchant in Cheapside, and by the terms of the will of his said father in law he was obliged to change his name.

### THE ADVANCEMENT OF BRITISH ARCHITECTURE.

10 Lancaster Place, Strand, W.C.: 18 Feb. 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR, Professor Lethaby, in his recent excellent and interesting Address to Students, remarked that "if all the able and enthusiastic men of this year could get together, they might decide what was to be the course of English architecture during the next twenty or thirty years."

I am pleased to find so high an authority practically agreeing with a suggestion I made some time back in an article published in a daily paper. After remarking that individuality was everything now in English architecture, and that even the individual architects did not often work for long in one style, I said: "If a number of architects banded themselves together for the common good, and agreed to work in one style on the same general lines, leaving scope for individuality in detail, they might in time leaven the whole architectural world and have their style universally adopted."

The First Commissioner of Works is a patron of architects on a very large scale, and might greatly help in the matter if he would give instructions for all his architects to work in agreement. The London Board schools have been generally erected in one style, which has gradually developed and had considerable influence on contemporary architecture. London police stations are a similar instance of a number of buildings designed in unison. The First Commissioner of Works, however, has the erection of much larger and more important buildings and greater opportunities of influencing current taste.

It would generally be agreed, I think, that the selected style should be some form of Renaissance, and a form which has life in it. We do not want mere hishes of eighteenth-century features served cold, without any modern flavouring or anything added to give point or piquancy. We should have good grouping and pleasing proportions worked out with carefully studied detail. Many of the

classic buildings erected of late are sadly lacking in detail. Detail requires careful study. With the amount of work which the First Commissioner's department has in hand, a specialist might be retained to give his sole attention to it—say someone like Mr. Hugh Stannus, who has devoted a lifetime to the study of Renaissance ornamentation and sculpture, and would be able to start where the Renaissance men left off. Such a man could have the supervision of all the sculptors and carvers, and might form a school of ornamentation. We should then have life in the work, and no more repetitions of the same eternal Corinthian capital of the Pantheon at so much a dozen, or hundred, and the same everlasting swags and enrichments all over a façade, but some of the variety of Gothic with the culture of Classic.—I am, &c.

W. J. K. LEVERTON.

### THE THEORY OF ARCHITECTURAL REFINEMENTS.

Brooklyn, N.Y.: 31st January 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—As bearing on Mr. Prior's letter in your issue of 11th January, it occurs to me to point out that both in my original answer to Mr. Prior (*Architectural Review*, September-October 1906) and in my more recent reply to Mr. Bilson I have abundantly debated the questions which Mr. Prior once more brings up, and which he again raises without considering or mentioning that such answers have been made.

My reply to Mr. Bilson is especially definite regarding buildings published by me which show bends or deflections as regards the question whether they could be explained "by the great stretches of time" which Mr. Prior invokes.

Mr. Prior says: "When the refinements are of inches, in lengths of hundreds of feet, and the consummation of a 'bend' is at an interval of a generation or two after its commencement, the theory of such a scheme requires a special machinery."

I have been careful to point out in the case of the churches which I have published that no such interval is to be presumed.

The cases of curves in plan, as distinct from bends or deflections, which are quoted in the reply to Mr. Bilson are in no case open to the objection which Mr. Prior raises. Should there be any church among those which I have published, concerning which there is any evidence that the entire construction is not homogeneous and contemporaneous, I should be very glad to have such instance mentioned by Mr. Prior. The weakness of Mr. Prior's position is that he does not quote the instances which I have published as open to the objection which he raises.—I am, Sir, very respectfully yours,

WM. H. GOODYEAR.

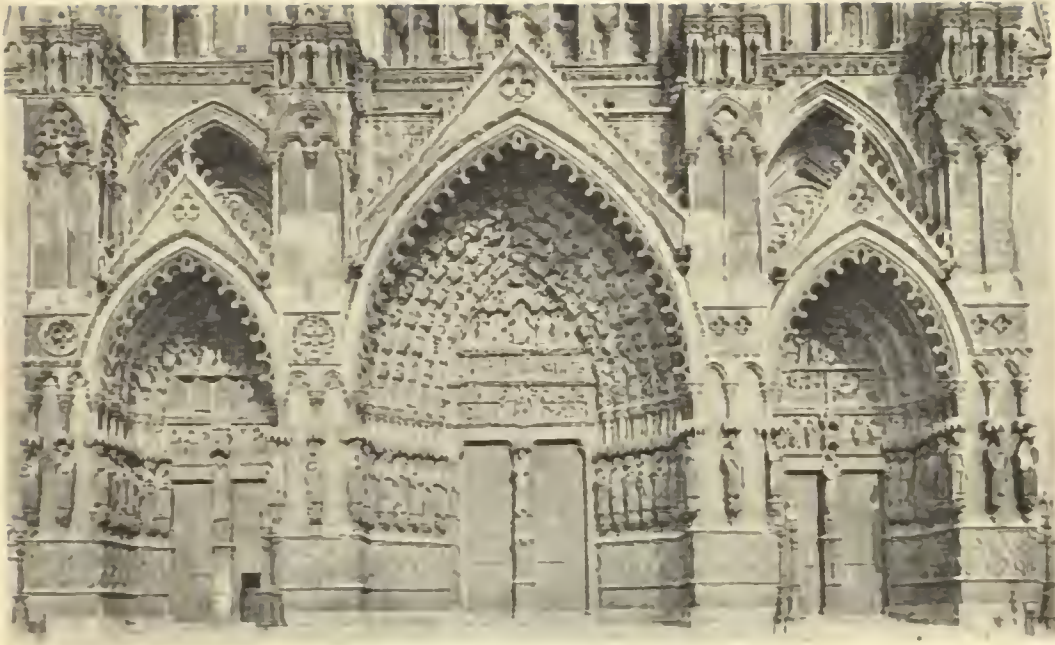


FIG. 1.—AMIENS CATHEDRAL: THE THREE PORCHES, WEST FRONT

## THE SYMBOLISM OF FRENCH SCULPTURE IN THE THIRTEENTH CENTURY.

By A. S. DIXON, M.A.Oxon. [F.]

Read before the Birmingham Architectural Association, 29th November 1907.

WE are all familiar with the fact that Gothic art, both in the region of construction and of sculpture—that is, both on the material and spiritual or expressive side of it—arrived at its high-water mark in the thirteenth century in France. In saying this I am not saying anything disrespectful of Italian, Spanish, or German, and least of all of English, Gothic. Italian Gothic did not excel in construction, and did not principally find expression in sculpture; Spanish Gothic hardly began to be important before the fifteenth century, and was soon overtaken by the Renaissance; German architecture was greatest in the period which preceded the Gothic times; and while we all admit, or rather claim, that in some respects English Gothic equalled French, and in others surpassed it, no one can deny that in construction and sculpture the French took the lead and kept it.

Among the most notable examples of this splendid triumph of Gothic art in France are the cathedral churches of Chartres, Rheims, Amiens, Beauvais, and Bourges; and there is a long list of other churches which are only second to these. Volumes have been written and remain to be written about each one, but I think it may be interesting to spend half an hour in an attempt to describe and illustrate the sculpture of one of them, viz. Amiens.

It is natural that a convert should be called upon to receive instruction in the doctrine of a religious body before he becomes a member; and the idea seems to have existed in the minds of the builders of these great churches that they would provide the people as they entered the western doors with an exposition of the Christian faith. The western walls, and

especially the porches, were so covered with sculpture as to become veritable books of teaching; the western front of Amiens [fig. 2] may be called an epitome of the thought and teaching of the time. The central porch is so vast that it is able to contain in its recesses twelve nearly life-size statues; the two other porches have eight each [fig. 1]. On the front of the buttresses which form the sides of the porches are twelve more, and under the feet of each is a smaller figure, or figures, crouching under his pedestal, which helps to identify his



FIG. 2.—AMIENS CATHEDRAL: WEST FRONT.

personality and his meaning. The tympana of the great arches are filled with sculptures in relief; the voussours are filled with hundreds of figures; and above the porches, extending from side to side of the great façade at the base of the towers, is a row of twenty-two life-size figures, each with a royal crown upon his head; while on the apex of the gable of the central porch is a great angel-trumpeter who seems to say to those about to enter that before they can understand the mysteries which are celebrated within they must learn the lesson which is carved for their instruction on the walls without.

What, then, is the lesson of this stupendous picture? The key is to be found in the great figure of Christ on the centre pillar of the great central doorway [fig. 3]; the rest indicates, on the one hand, the evidences on which His life and death and teaching are based; on the other the nature of His teaching.

He is surrounded on right and left by figures of the Apostles [fig. 4], who were His witnesses; while on the faces of the four buttresses are Prophets—not all the Prophets, but those only who prophesied His coming. Above, under the towers, the long row of crowned figures are



FIG. 3.—LE "RESC D'AMIENS": FIGURE OF CHRIST ON THREAU OF CENTRAL PORCH.

the kings of Judah, who represent His genealogy. In the tympanum of the central porch [fig. 5] and on the little bas-reliefs on the plinth is an epitome of Christian doctrine. The latter contain representations of the virtues and vices; the former contain a realistic scene representing the Resurrection and Final Judgment, in which the souls on either side of the seated figure of Christ are led, some to eternal life and some into the mouth of hell.

I cannot do better than quote here a sentence from Mr. Ruskin's description in the "Bible of Amiens." "Look back," he says, "to the central statue of Christ and hear His message. He holds the Book of Eternal Life in His left hand, and with His right Ho

blessest, but blessest on condition: 'This do, and thou shalt live; and this if thou do not, thou shalt die.'"

So much for the general scheme. We may now more fully examine some of the details. Let us look back again to the figure of Christ on the centre pillar of the central door. Under His feet and upon the pedestal on which He stands are two animals, a lion and a dragon [fig. 6]; and under the pedestal are two more, a bird with a cock's head and a serpent's tail, and a kind of dragon crouched with one ear on the ground and the other covered by his tail.

Evidently the animals are symbolic. It is true that often animals and flowers are used in churches of this date for no other reason than the expression of a delight and interest in



FIG. 4.—APOSTLES IN CENTRAL PORCH, AMIENS.

natural forms; but in this particularly important position in the centre of the central doorway, under the very feet of Christ, no serious sculptor would carve animals only for fun.

What, then, is their meaning? Mr. Ruskin tells us that the lion and the dragon represent carnal sin, and that the other two animals, the cockatrice and the adder, represent the infidelity of Pride and Death.

I do not know Mr. Ruskin's authority for this explanation. A very interesting clue has, however, been discovered by M. Emile Mâle,\* in a sermon written by Honorius d'Autun, in

\* *L'Art religieux du xiii<sup>e</sup> siècle en France*, par Emile Mâle. Paris: Armand Colin.



FIG. 5.—TYMPANUM OF CENTRAL PORCH, AMIENS.

the twelfth century, on the 13th verse of the 91st Psalm. This verse in the Vulgate reads: "Super aspidam et basiliscum ambulabis et conculcabis leonem et draconem"—"Thou shalt tread upon the aspid (adder) and the basilisk (cockatrice), and the lion and the dragon thou shalt trample under thy feet."

This Psalm has always been interpreted by the Church with reference to our Lord, and is so taken by Honorius, who then explains the symbolic meaning of the four animals: and no doubt the meaning which was given in a sermon in the twelfth century will be that which was in the mind of the sculptor of the thirteenth. The lion, he says, is antichrist; and the dragon is the Devil; the basilisk or cockatrice, half bird and half reptile, is death; the aspid

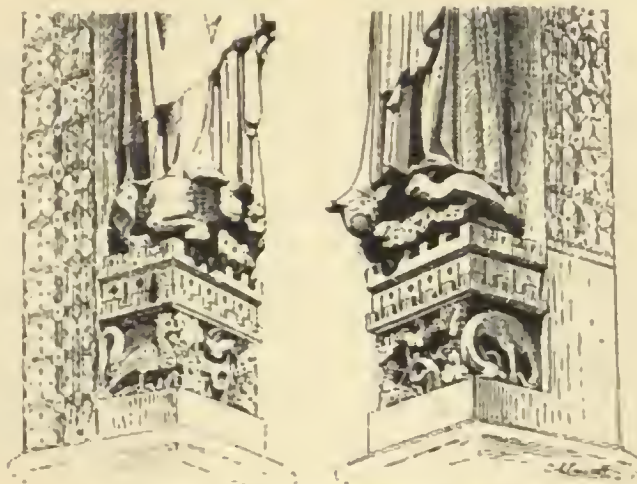


FIG. 6.—AMIENS: PEDIMENTAL OF THE FIGURE OF CHRIST ABOVE.

or adder is sin: so that the meaning of the whole is the triumph of Christ over the Devil, over Sin, and over Death.

The symbolism of the adder is the more elaborate. He is represented with one ear on the ground and the other covered with his tail. It seems that in the mediæval bestiaries, from which the mediæval artists derived much of their knowledge or imagination about animals, the aspic is described as a kind of dragon which can be charmed with songs; but he is afraid of his charmers, and when he hears them he puts one ear to the ground and covers the other with his tail; so he disarms the enchanters, and becomes the symbol of the sinner who closes his ear against the word of life.

In this case we have seen that Honorius makes the lion symbolic of antichrist. It is curious that we often find the same symbol used in quite different ways and with different



FIG. 7.—LION AND CUBS: WINDOW AT LYONS.

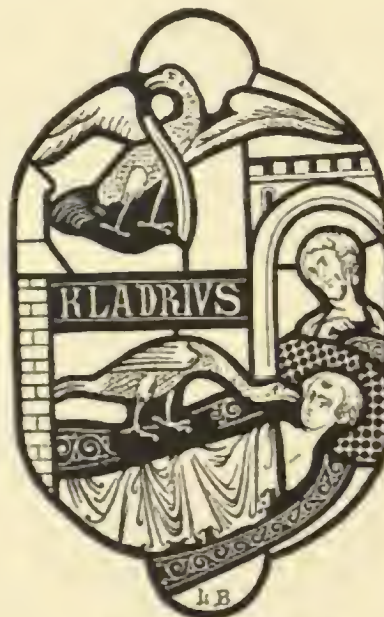


FIG. 8.—THE CHARADRIUS (LYONS).

meanings. The lion, for instance, is sometimes used as a symbol of courage; he is also used as a symbol of the Resurrection.

This last significance of the lion is very characteristic of the credulity and childlike naïveté of the mediæval mind, which to us seems (though it surely was not) almost akin to irreverence. It appears that the bestiaries taught that the lion was an animal who slept with his eyes open, and he was therefore used as a symbol of the Resurrection. But there is another story about him which is still more curious. It was believed that the lion's cubs were born dead, but three days later the sound of the lion's roaring brought them to life [fig. 7]. "So," says Honorius, "was Christ restored to life on the third day by the voice of His Father."

There is a medallion in one of the windows of the cathedral of Lyons, the meaning of which I am sure no one will be able to guess. It represents a young man lying ill in bed, and a great white bird standing on the bed with his beak close to the sick man's mouth [fig. 8]. What can this mean? Here is a passage from another sermon of Honorius d'Autun which, no doubt, explains it.



FIG. 9.—DECEMBER, JANUARY, FEBRUARY (AMIEUX).

"There is a bird," he says, "called the charadrius which will tell you whether or not a sick man will escape death. He is placed near the sick man: if the man is to die the bird will turn away his head; if he is to live the bird will fix his gaze upon him and with his open beak absorb the disease. Then he flies away into the sunshine, and the disease which he has absorbed goes out from him like sweat. Then comes the interpretation. The white bird."



FIG. 10.—MARCH, APRIL, MAY (AMIEUX).

continues Honorius, "is Christ. When His Father sent Him to save the world He approached the sick man. He has turned His face away from the Jews and has left them in death, but He has looked towards us and has carried our infirmities on to the Cross. The bloody sweat of our sin has fallen from Him, and He has ascended to His Father and has brought salvation to us all. So the charadrius is the symbol of the Ascension and of the Atonement."

Let us now go back to Amiens. We have seen the great central figure of Christ trampling over Sin and Death, surmounted by the long line of His royal ancestors, surrounded by His



FIG. 11.—JUNE (PARIS).

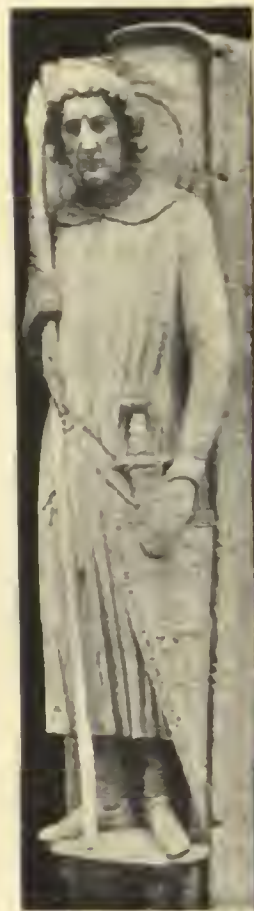


FIG. 12.—ST. THEODORE (AMIENS).

witnesses the majestic figures of the Prophets and Apostles, and over His head the picture of the Last Judgment, the choice that must be made by man between life and death. We now come to the series of little quatrefoil medallions which at a distance look like a little pattern decorating the plinth, but which are each filled with sculptured scenes and figures of definite and ordered significance.

First, there is a series of the twelve signs of the zodiac, and under them the labours appertaining to the corresponding months of the year. What, you will ask, can be the connec-

tion between the signs of the zodiac and the teaching of the Church? Well, it appears that in the earliest Christian churches the calendar often had its place among the symbolic decorations; it was no doubt from one point of view a relic of paganism. The signs of the zodiac are, of course, of pagan origin; but they soon earned a very definite place in the system of Christian doctrine. The calendar represented the liturgical seasons of the Church: by what seems to us the childlike superficiality of the mediæval mind the accidental correspondence between the number of the seasons and the number of the Evangelists, between the number of the months and the number of the Apostles, led to the strange idea that the year was a symbol

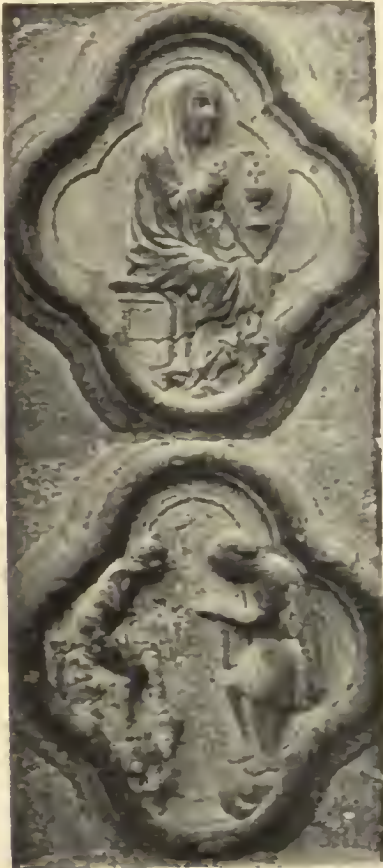


FIG. 12.—FAITH AND IDOLATRY (AMIENS).



FIG. 14.—COURAGE AND COWARDICE (AMIENS).

of Christ. But the most real and profound significance of the calendar is to be seen in the medallions representing various kinds of labour under the sign of every month [figs. 9 and 10]. It is not only a picture of the everyday life of man—though that alone might have given it a place in the building which was to so great an extent the centre of mediæval life—but it is clear from contemporary sermons that it is used to represent the doctrine that one of the means by which man is to obtain his redemption is by the daily labour of his hands.

Let us begin with March. The peasant is digging his vine. In June he mows [fig. 11]. In July he reaps. In August he threshes his corn. In September he gathers his fruit. In October he treads the winepress. In November he sows. Whatever he did in April and

May, these months seem to have been connected in his mind more with pleasure and the delights of the spring season than with work. In April we have a figure in a long robe—I think he is a gentleman, not a peasant, feeding his hawk. This represents sport. In May a figure sitting under the shade of a tree in full leaf enjoying the spring season.

In winter, again, work seems to have given place to ease and conviviality. In December he kills his pig. In January he sits at table feasting. In February he has begun to go out to



FIG. 15.—NORTH CHURCH OF ST. FIRMIN (AMIENS.)

work in his fields, but he has got his feet wet in the snow, and is drying his boots and warming his feet by the fire [fig. 9].

Another series of medallions shows the contrast of the vices and the virtues. There are twelve virtues with their corresponding vices. Faith and idolatry, hope and despair, charity and avarice, chastity and lust, patience and anger, prudence and folly, humility and pride, courage and cowardice, meekness and brutality, concord and discord, obedience and rebellion, perseverance and inconstancy.

I will refer in detail to only three of them.

*Faith and Idolatry.*—Faith is a little old woman holding a shield on which is blazoned a chalice and a cross. Idolatry is a man worshipping a grotesque monkey-faced creature [fig. 18].

*Charity and Avarice.*—These are represented much as they would be represented to-



FIG. 16.—NORTH PORCH OF ST. VITUS: FIGURES.

day, a woman giving her cloak to a poor man; another shutting and holding down the lid of her strong box.

*Courage and Cowardice.*—A soldier with a sword and a shield on which is a lion [fig. 14]. A young man running away from a rabbit, while a bird sits quietly in a tree and seems to say, What are you running away from?

After all, they are not very interesting these virtues and vices, and Mr. Ruskin says of them that they were evidently not entrusted to the best of the sculptors who worked on the church.

There remain the northern and southern porches, which are really outside the picture of the main front, though their subjects are correlative.

The northern porch is devoted to the figures of the saints and heroes of Amiens and its neighbourhood [fig. 15]. They are not directly connected with the scheme of the whole front, but they show forth how Amiens has learned her own lesson, and how her sons have obeyed it



FIG. 17.—SOUTH PORCH OF THE BLESSED VIRGIN (AMIENS).

in their lives. The central figure in the porch is St. Firmin, the first missionary priest who converted heathen Amiens [fig. 16]. Of the figures on the sides St. Firmin, confessor, was a citizen of Amiens; St. Ulpha was an Amienoise anchoress; St. Geffrey and St. Honoré were bishops of Amiens; SS. Quentin, Gencien, Fulcien, and Victorice were martyrs who suffered at Amiens. There is nothing specially interesting in their stories. It was the custom to kill Christians: they were faithful, and they were killed.

The statue of St. Theodore [fig. 12] is not in the porch, but in another part of the

church: his story is very short, and I give it as it is written in the "Golden Legend" of Jacobus de Voragine.

"He entered into the temple of Mars by night, and put fire into it and under and burnt all the temple. And then he was accused by a man who had seen him and was enclosed in the prison for to die there from hunger, and then our Lord appeared to him and said, 'Theodore, my servant, have thou good hope, for I am with thee.' Then came to him a

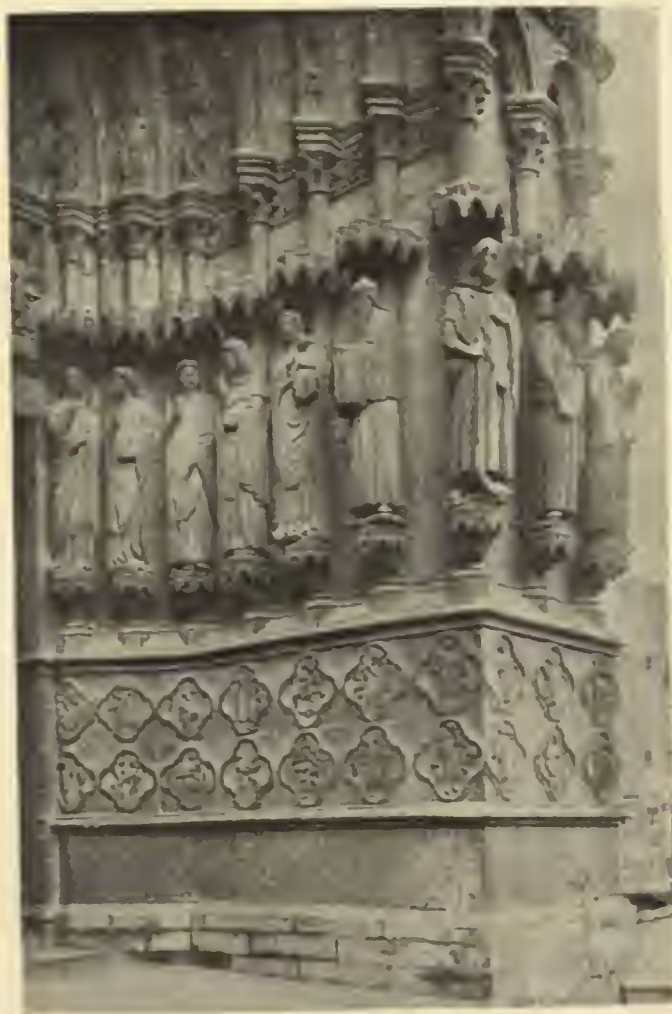


FIG. 18.—GOTH FORM OF THE BLESSED VIRGIN (AMHUS): FIGURES.

great company of men clothed in white, the door being closed, and began to sing with him. And when the keepers saw that, they were afraid and fled. Then he was taken out and warned for to do sacrifice. He said, 'If thou burn my flesh by fire and consumest it by divers torments, I shall never renye my God as long as my spirit is in me.' Then he was hanged on a tree by commandment of the Emperor, and cruelly his body was rent and torn with hooks of iron that his bare ribs appeared. Then the Provost demanded of him, 'Theodore, wilt thou be with us or with thy God Christ?' And Theodore answered, 'I have been with my Jesus Christ, and am, and shall be.' Then the Provost commanded that

he should be burnt in a fire, in which fire he gave up his spirit ; but the body abode therein without hurt about the year of our Lord 277. And all the people were replenished with a right sweet odour, and a voice was heard which said, ' Come to me, my friend, and enter into the joy of thy Lord.' And many of the people saw the heavens open."

The south porch has for its central figure the Blessed Virgin, and on either side are large figures illustrating her history. On the left side are the Blessed Virgin herself with the angel Gabriel, representing the Annunciation. Another figure of Our Lady with St. Elizabeth, representing the Visitation ; a fourth figure of St. Mary in presentation with St. Simeon [figs. 17 and 18]. On the right side, the Kings who visited her, Herod who drove her out of her own country into Egypt, and lastly, curiously enough, Solomon and the Queen of Sheba, whose presence Mr. Ruskin explains by the suggestion that these figures represent a better way in which a king may receive a queen than that in which King Herod received her who is represented in this porch as the Queen of Heaven.

Mâle, however, thinks Solomon typifies Jesus Christ, and the Queen of Sheba the Church, who comes from the farthest parts of the world to listen to His wisdom.

I will finish by referring to one of the medallions at this side of the façade, which is under the statue of Zephaniah [fig. 19]. It represents the terrible denunciation of the prophet against the sins of the world, and his prophecy of the destruction of Nineveh.

" And he will stretch forth his hand against the north, and destroy Assyria ; and will make Ninéveh a desolation, and dry like a wilderness. And flocks shall lie down in the midst of her, all the beasts of the nations : both the pelican and the hedgehog shall lodge in the upper lintel of it ; their voices shall sing in the windows ; desolation shall be in the thresholds : for he shall uncover the cedar work."

How should we represent the majesty and terror of this fine passage on two square feet of stone, if any of us had the will to try ? I imagine the French sculptor who was set to solve this insoluble problem must have said, " It is impossible, and I will not try ; but there is no reason why I should not make you a very charming little medallion, with a nice Gothic palace and a delightful bird in the attic, and a very nice hedgehog in the hall which will serve as a useful little picture in your minds by which you can remember that Zephaniah wrote a lengthy prophecy against the wickedness of cities."

Several of the illustrations of this Paper are taken by permission of the publishers from M. Emile Mâle's book above referred to ; and the writer is also largely indebted to the same book for information in the text.



FIG. 19.—THE PROPHECY OF ZEPHANIAH.



9 CONDUIT STREET, LONDON, W., 7th March 1908.

## CHRONICLE.

### Sessional Paper for Meeting of 13th April.

Some difficulties having arisen in connection with the Paper on the Designs for the London County Hall, arranged for the meeting of the 13th April, Mr. H. Heathcote Statham [F.] has kindly undertaken to read a Paper on that evening entitled "A Threefold Aspect of Architecture: Tradition—Character—Idealism." Numerous illustrations from existing buildings or designs will be shown by lantern.

### The Royal Gold Medal.

The Special General Meeting convened by the Council in accordance with By-law for the election of the Royal Gold Medallist for the current year took place last Monday, when the following resolution was brought forward by the President on behalf of the Council:—"That, subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of Architecture be awarded this year to M. Honoré Daumet, Membre de l'Institut de France [Hon. Corr. M.], for his executed works as an architect and for his distinguished services in the cause of architectural education."

Mr. Alexander Graham, F.S.A., *Hon. Secretary*, in seconding the motion, gave the following particulars of M. Daumet's professional career and work:—

M. Daumet was born at Paris in 1826. He began his architectural career as a pupil of Blouet and Gilbert, and was awarded the Grand Prix de Rome in 1855. His principal works as an architect include the Palais des Facultés and the Palais de Justice at Grenoble; the Palais de Justice, Paris (which he carried out in collaboration with Duc); the Chapel *Ecce Homo* at Jerusalem; the Chapel and Pensionnats for the Dames de Sion at Paris and at Tunis; the restoration of the Château de Chantilly for the Duc d'Aumale; the works at the Château of St. Germain; St. Pierre at Vienne; and other works. M. Daumet's works at Chantilly and at the Palais de Justice are highly esteemed by his French colleagues, by whom he is held in great honour both for the nobility of his character and

the refinement of his work. M. Daumet has been the recipient of various honours, not only from his own countrymen, but from abroad. He was elected by the unanimous vote of all the nations represented on the Permanent Architectural Congress Committee to be their President. He is a member of the Académie des Beaux-Arts of the Institut de France; Inspector-General of Civil Buildings, Paris; Vice-President of the Council of Architecture of the City of Paris, and Official Architect to the Court of Appeal, Paris. He is a Commander of the Legion of Honour, and a Past President of the Société Centrale des Architectes Français. His services on behalf of the educational side of architecture in France have been remarkable. No fewer than nine of his pupils have taken the Grand Prix de Rome, among them being M. Ch. Girault, the architect of the Petit Palais, Paris. M. Daumet was elected Hon. Corresponding Member of the Institute in 1886.

Mr. Graham, in concluding, said he felt that all his colleagues would agree that M. Daumet's career had been a great one.

The President said he was sure it would not be necessary for him to put the resolution formally to the vote by show of hands, but that it would be carried at once by acclamation.

The Meeting responded by warmly cheering, and M. Daumet was declared elected.

### Assessing of Competitions.

At the Business Meeting of the 2nd March Mr. Herbert W. Wills [A.], in accordance with his notice printed on the agenda, brought forward the following resolutions:—

1. That for all competitions for buildings of £15,000 and upwards a jury of three Assessors be appointed.
2. That the fees paid to such Assessors be the same in total amount as the fee hitherto paid to one Assessor.

Mr. WILLS, in introducing his resolutions, said:—I should like to remind the opponents of the competitive system that I am quite with them in preferring to obtain work without competition, but at the same time if competitions are held they should, like funerals, be conducted in a decent and reasonable manner. So long as architects have not enough to do, and public bodies like to choose between the work of many, instead of directly appointing one architect, so long will the system last; and while it does it must be in the interests of all that it should be conducted in the best manner that can be devised. What is the present condition of things? Without wishing to make any personal remarks, or to deny that every Assessor appointed has merits which justify from some point of view his selection, it is to be doubted if all of them are fitted for the particular work they have to do. It is possible that some of them are so wrapped up in artistic dreams as to be unable judiciously to weigh prosaic facts, while others read more into a design than is there shown on account of their

inventive imagination. Probably in showing themselves to be imperfect Assessors they are conclusively demonstrating their fitness for higher functions. I also believe that, assuming they ever make a mistake, it is made with the best intentions; but from the point of view of a competitor these mistakes are a little unfortunate, and although a certain amount of chastening is good for us we may have a little too much of a good thing. It seems to me that the chief mistakes made under existing conditions arise out of, first, the Assessors ignoring definite conditions clearly laid down in the instructions issued; secondly, forgetting that a design consists of plan, section, and elevations, and that in the best schemes these must be considered as a whole without undue weight being given to any one of them; thirdly, what may be termed overlooking a design. Frequently one sees out of a large number of designs one selected, while another which is of the same type, but which is better developed and carried out, is apparently left out in the cold. Now before considering propositions to obviate these mistakes I should like to say a few words as to conditions. We have most of us frequently found ourselves handicapped by a number of vexatious and useless conditions which greatly limit our power of design. For example, the stating of the exact areas of a large number of rooms is, to my mind, useless and unnecessary. It is far better to have the superficial areas of departments approximately stated, leaving their subdivision to the competitor, or else to have the statement that rooms are for the use of a certain number of people. If, however, all the accommodation is scheduled and dimensions stated, the promoters should leave the cost open, as the accommodation fixes the cost within narrow limits. The existing system of fixing the accommodation and the cost, and penalising one if one exceeds it, is a direct encouragement to mendacity, and we sometimes find statements made in reports which do not seem altogether probable. But there is another side to the question. I well remember Mr. Ernest George telling us that, although clients' demands were often troublesome, the necessity of complying with them frequently gave rise to exceptionally interesting work; and this is also the case from time to time with conditions in a competition. The broad distinction seems to be that promoters should tell us what they really want, but that they should not dictate to us as to the manner in which we should meet those wants. Frontage lines should be definitely laid down, and in most cases we should be told in which of two or more fronts entrances are required. We should be told in the case of a hospital the number and size of the wards, as points of this kind depend on the use to which each building can be put, which considerations are known to promoters and not to competitors; on the other hand, if accommodation may be equally well placed on one of two floors, it is mischievous to make even a suggestion as to the position of the accommodation in question. Broadly speaking, I think suggestions should be omitted and conditions cut down to a reasonable minimum. As to drawings, I think the minimum of necessary work should be asked for, and while conditions should be drawn up which ensure general uniformity, red-tape regulations on the subject may well be omitted. Mr. Alfred Waterhouse used to ask that each design should be illustrated by as few sketches as possible, which I think very reasonable. I am quite sure that reports might in most cases be dispensed with, and a printed form

with blank spaces for cost, materials, cubic measurements, and price be substituted; only typists would be damaged by the change. I am also strongly in favour of making promoters pay a considerable portion of the commission in case of work which is abandoned or delayed for more than a year. This would prevent promoters asking for designs first and then considering if it suits them to build, as is too frequently the case now. The most frequent cause of bad awards in my view is that conditions are ignored, and I think it might be gently hinted to Assessors that it is as easy to read conditions before an award is made as afterwards; I believe that the jury system would be calculated to bring about this result. I also think that designs which are at present sometimes overlooked by one Assessor would be more likely to be noticed by some member or other of the jury; also that, as what we really want is a result which should commend itself to general approval, we should be more likely to get it from the consensus of opinion of several men than from one man's judgment. Also there are occasions when any single man's judgment, though generally sound enough, goes astray, and in such cases he would probably be corrected by his colleagues with good results. It has been urged that the strongest man of a jury will have his way, and this is not to be regretted; but he would be checked by his colleagues if he proposed to do anything which is obviously unsound. It has been urged that a legal jury would frequently go astray but for the judge's summing-up; but it must be remembered that the members of a jury have usually no legal knowledge, whereas our juries would be composed of judges with a trained knowledge of the subject-matter. Assuming also that each member of a jury is a competent Assessor—and if he be not his appointment is a mistake—we get the greatest amount of safeguard against possible individual aberration. The jury system is objected to by some because it is said that it would do away with the personal sense of responsibility. Were this so, it would be an equally strong argument against any system of partnership, but I have never heard this brought forward. I should rather put it that, if so slight a thing does away with a man's sense of responsibility, he is unfit to act singly; for it amounts to this, that only fear of being directly charged with a mistake will make a man honestly try to avoid it, which to my mind is equivalent to putting a man in a very low moral category. The real jury system, and to my mind the only one worth trying, is that which I understand is universal in France and America, the decision of three or more Assessors, each having a voice in the decision. Naturally, the less important competitions would be decided by younger and less eminent men than the larger and more important ones, but in each case the members of a jury would be on an equal footing, and they would (I take it) elect the most suitable of their number to communicate with the promoters. There is another method which has support in many quarters, that is, that there shall be one Assessor, and two assistants who may express an opinion, but who will have no vote. I may be entirely wrong, but it seems to me that this is no jury system at all, but the one-man assessorship assisted by two crutches. If these assistants are not fully qualified and capable men they should not be appointed; if they are I do not see why they should not have a voice in the decision. If they sway the Assessor they might as well have a vote; if they do not they seem to me to be superfluous. Also

it is at present always possible for an Assessor to take with him a second man or two men, and to confer with them if he chooses to do so and believes that it would be of assistance. I am a little afraid, also, that it would lead to the Assessor being consulted as to the assistants he would like to work with, which would further operate against their expressing their views with absolute freedom. There is one other suggestion I should like to make. Whatever is finally decided on, I believe that a suggestion I made some years ago is worth serious consideration. It is that every year a list of Assessors should be drawn up—possibly by the Competitions Committee and the Council—and submitted to the General Body. These Assessors should consist of architects who are considered to be fit and proper persons to act as Assessors for various types of buildings. From this list Assessors should be nominated by the President. When I proposed it, it was criticised as an infringement of the President's prerogative; but in reality it is nothing of the kind. We exact year by year a heavier tax on the time and services which our Presidents render so freely and generously for the common good of all. Now even if the President has more knowledge of competitions and Assessors than any one of us, the collective result of many men's experience may be of use to him, and by adopting some such system we may be able to help him. The general consensus of opinion will from time to time show what changes should be made in such lists, and only good can, as far as I see, come from such a system. I also wish it were possible that some special committee could be formed to investigate legitimate complaints as to the conduct of competitions. As I have said before a bad award is no crime on the part of an Assessor, but at the same time it does indicate that a mistake has occurred. I am not suggesting such inquiries with a view to reversing awards given, but as a means of avoiding the repetition of similar mistakes, and my suggestion is that the Competitions Committee, having had such a complaint before them, should decide whether or not to ask the Council to refer the case to the special committee formed to deal with such cases. I think, in conclusion, we should remember that in no other profession is it possible, as with us, very largely to decide for ourselves whose works should be added to the architecture of the present, and that such a power should be in every possible manner safeguarded from abuse and error. My reason in proposing a limit of cost for the application of the jury system is that I do not think promoters can be expected to pay more than the fees scheduled in the R.I.B.A. Regulations, but that at that point a fee is paid for which the services of three competent men can be obtained. I therefore move the resolutions standing in my name.

Mr. A. W. S. CROSS, M.A. [F.], in seconding the resolutions, said that the whole line of argument in favour of the proposed change had been so fully dealt with by Mr. Wills, it was not necessary for him to waste the time of the Meeting by any statement in support of facts which were evident to most of them. With regard to the jury system which Mr. Wills advocated, he confessed he was not quite so enthusiastically in its favour as he had been some time ago. They were none of them inclined altogether to accept the awards of the jury, for instance, in the case of the "Peace Palace" competition at The Hague, or more recently in that of the London County Hall. At the same time the system had worked well for many years in America and in France, and he thought it should be given an extended trial in this country.

Mr. GEORGE HUBBARD, F.S.A. [F.], said he had listened with much attention to Mr. Wills's proposal, and had noted down what appeared to be the essential points. Mr. Wills suggested that in competitions of £15,000 and upwards three Assessors should be appointed. The three Assessors, he understood, should be men of equal standing, and the fees which formerly went to one Assessor should be divided by 3, so that each would have his fair share. The principle of a jury system, in his opinion, was a perfectly sound one, in spite of recent results; but he was not at all satisfied that Mr. Wills's proposal, with its hard-and-fast limitations, was the best possible conception. He was not sure that the limit ought to be put at £15,000, or that three Assessors were the right number; but the jury principle was one he was ready to support. He would therefore move as an amendment, "That this Meeting approves of the principle of the jury system in assessing competitions, and that the question be referred to a committee of members of the Institute to consider and report." He put that forward as an amendment because he felt that by carrying Mr. Wills's resolutions introducing a rigid rule they might on further consideration find such a rule not to be the best for their purposes. The other matters referred to by Mr. Wills they would all heartily endorse. He personally felt that the conditions, whether good or bad, of any competition ought to be rigorously observed by every competitor. He also thought that Mr. Wills's remarks with regard to the costs might be considered with advantage, for these costs could be very much curtailed.

Mr. F. CHATTERTON [A.] seconded the amendment.

Mr. H. HEATHCOTE STATHAM [F.] said he was very much in sympathy with Mr. Wills's motion, but he did not understand the reason for his proposal of another special committee to settle the point whether a competition had been rightly conducted or not. The Competitions Committee was exactly the right body. Why increase the machinery?

Mr. MAURICE B. ADAMS [F.] asked if it would not be better if Mr. Wills withdrew his resolutions. There might be some present who would be induced to vote for his proposal not knowing the views or the particular form which the consideration of the subject might take on the Council; but, inasmuch as Mr. Hubbard had expressed what many of them felt, he thought it would be very much better for the Council to deal with it. It was a very big question. He for one saw difficulty in inducing public bodies to adopt the principle of three Assessors. They had been fairly successful (notwithstanding that the Assessors' judgment had not been in all cases satisfactory to the competitors) in their advance during the last quarter of a century as regards the conduct and results of public competitions. Public bodies had been induced to recognise the Institute; and no one regretted more than he did when the authority of the Institute had been challenged, and when the Institute had not been allowed to exercise its beneficial influence over the conduct of competitions. He thought that, before voting, every member in that room should be fully convinced that the amendment was not put forward with any intention to shelve the subject. Having agreed upon the principle, Mr. Hubbard's proposal would be the best course to adopt, and he felt it would be much better if Mr. Wills and Mr. Cross were to agree to withdraw the resolution in favour of the amendment.

THE PRESIDENT: Your amendment, Mr. Hubbard, is that the Council should appoint a committee?

Mr. HUBBARD: I have only suggested that a committee should be formed, and should report to the Council.

Mr. G. A. T. MIDDLETON [A.] suggested that the present Competitions Committee would be the right one to deal with the matter.

Mr. EDmund WILKINS [F.] asked leave to intervene for a moment as Hon. Secretary of the Competitions Committee.

He had come to the meeting expecting to find—considering the part that competitions played in the modern architectural world—that the room would not be large enough to contain the members who would take an interest in Mr. Wills's motion. With that motion, so far as it went, he was heartily in sympathy. He thought that some improvement on the present method of assessing competitions might be initiated by the Institute. His experience on the Competitions Committee had borne in upon him the fact that it was not merely the competition where the award created a great sensation, because it was so manifestly in the face of all professional opinion, that was in question, but the assessing of the quite small competition, which the architectural public did not get into contact with at all. Those cases were constantly referred to the Competitions Committee, and, speaking for that committee, what they felt was, that until they had got promoters and public bodies to accept the selection by the Institute of the Assessor and to abide by his award—until that acceptance of a nomination from the President of the Institute was much greater, much wider, and much more ready than it was at present, they had to be as careful as possible in throwing any blame or making any criticisms which would weaken the position of an Assessor appointed in that way. He was open to correction if he were wrong, but he thought in all cases which at the moment occurred to him that the principle on which the Competitions Committee had acted had been that until that principle was much more widely and readily accepted they had to support the Assessor. It was obvious that a case occasionally occurred where the Assessor had definitively committed an error of judgment; and he thought that Mr. Hubbard's amendment might help to rectify an error of that kind. He did not quite agree with Mr. Wills that the proper method of overcoming the difficulty would be by introducing the jury system. They had just seen the first application of that system, and in its most flowery type. They had seen one of the Assessors appointed by the competitors themselves—and if one desired a jury system under its best possible aspect, one could not have it better than that one of the Assessors should be appointed by the votes of the competitors themselves. He ventured to say that they had seen the breakdown of that system. A suggestion thrown out that evening seemed to commend itself—at all events to his humble judgment—as a very much better thing, that is, that when the President was asked to nominate an Assessor, he should nominate the best man he knew competent to deal with the particular class of work in question; and, having done that, the Competitions Committee should be asked to nominate two assistants—junior men who had done something in the way of winning their spurs, men who were known to be keen, and who had qualified to some extent in the particular branch of work to be assessed. These assistants should act with the Assessor himself; they should not have a vote, but the Assessor should not be able to give his award in the face of their honest conviction that he had overlooked some particular plan, or that some merit in a particular plan was worth a little more consideration than he had given to it. He should like to carry the suggestion a point further, and to say that the Assessor having been appointed by the President, the two assistants might be nominated by the Competitions Committee, and that the Award should not be sent in to the promoters until the President had had a letter from the Assessor himself, countersigned by the two assistants, saying that they entirely agreed with the Award proposed to be made. If that system were adopted by the Institute, it would first of all ensure the Assessor himself being a competent person; it would also safeguard him from overlooking a design of any merit; it would further prevent the assistants from carrying the award against the judgment of a more experienced man; and it would also give the President of

the Institute the opportunity of intervening before any mischievous thing was done, if in the opinion of the two younger men the Award was unsatisfactory in any particular. So that, under circumstances of that sort, if it happened that the two young men should sign a minority report to the President, the President himself would be able to intervene and make quite certain that the Assessor was right before the Award went in. As to the appointment of a special committee to deal with the question, he really thought, in view of the empty benches that evening, that that was the only way it could be dealt with consistently with the dignity of the Institute, because to carry such a resolution as Mr. Wills had moved in a half-empty room, on a question of such importance to the profession, seemed to be altogether wide of the mark; but if the question was to be referred to a committee, he could not quite see why the Competitions Committee itself should not be competent to deal with it. He did not think he would be revealing the secrets of the charnel-house in a way that would be considered contempt of court if he said that resolutions and recommendations from that committee had gone to the Council at different times, and had been treated with a lordly amount of disdain, which apparently the Council had been entirely justified in meeting out to them when one considered the support Mr. Wills had received that evening; but, nevertheless, those recommendations had gone up from the Competitions Committee, and although it was very frequently called to task, because when unsatisfactory conditions were published it had to deal with the promoters, and to carry on, perhaps, a somewhat protracted correspondence with them before it could get those conditions amended, and eventually had to blackball the competition when it was quite evident that the promoters did not intend to amend their conditions;—although they had all that to deal with, he believed that the committee was quite competent to report to the Council on the question before them. He would suggest that Mr. Hubbard's amendment should be modified in such a way as to make the Competitions Committee the body to deal with the matter.

Mr. HUBBARD said he was quite prepared, if his second was, to agree to Mr. Wimpey's proposal; and as Mr. Wills had taken so much trouble in the matter, he thought it would be a good thing if he could be co-opted on to that committee. He would like also to suggest that Mr. Jennett, whose design for the County Hall was a most excellent one, should also be co-opted on to that committee.

THE PRESIDENT: I think the Council have power to do that, and it might be brought up at their next meeting.

Mr. EDWIN T. HALL, Vice-President, said he should like to speak to the motion, because it was a common principle underlying any suggested reform that some reason should be shown for supposing that the reform suggested would be an improvement. He ventured to suggest that Mr. Wills had not shown in his argument that if they had a jury of three they would be any better off than before. He must confess that his sympathy was much more with the suggestion, which he believed emanated from the President in his Address the year before last, of having an Assessor with two assistants. What evidence had Mr. Wills brought before them that a jury would give them better results than they had had hitherto? They had had The Hague Competition, but would anyone bring that forward as an instance to show that the best results had been obtained from the jury system? They had had another jury in a more recent competition. He did not know whether Mr. Wills would suggest that the result of that competition had demonstrated that the jury system was a much better system than that under which they had been working. He thought that before this reform should be commended to a meeting of the Institute, Mr. Wills should show them that the brilliant results of the jury system had

been so conspicuously shown in recent cases that they would gain greatly by adopting it in future. He ventured to suggest that he had altogether failed to do so. The great thing they ought to impress upon Assessors was that when there were conditions they must abide by those conditions. That was the whole secret. If Assessors gave the go-by to conditions, they would never get a result satisfactory to anyone. Let the Assessor be himself judicial in his mind, and when he is a good man (as Assessors generally are) they would get a good result. He said this in all seriousness, and with a full sense of responsibility. An Assessor might commit an error of judgment, but he would not make mistakes such as they complained of. It was not so much errors of judgment, but the overlooking of what competitors thought to be important points in their designs. The scheme which emanated from the President was a much better one than that suggested by Mr. Wills: it was that there should be an Assessor with a full sense of his responsibility; but as every man was fallible, it was a very good thing that he should have somebody whose business should be to draw his attention to points which possibly might have escaped him. When an Assessor had a mass of drawings—it might be hundreds—to wade through, it was quite conceivable he might overlook something; but if he had two assistants—younger men, keen, and full of energy—they would be only too glad to point out facts that the Assessor should take into consideration. If the proposal were on such lines as that, it would have his very cordial support, and he should like to propose, on Mr. Wimperis's suggestion, that the matter should go to the Competitions Committee to consider it in all its details, and to report to the Council with a view to its adoption in that room later on. He would suggest, further, that in competitions it might be possible to make the conditions less in number and the suggestions more, so as not to hamper the men too much, but to lay down certain rules, which should be as the laws of the Medes and Persians, beyond which no one should go. As regards the question of the remuneration of Assessors: one could not expect promoters to pay a larger fee than they had been accustomed to pay, and if they were to have three leading men in the profession to assess a small competition, it must be remembered that every labourer was worthy of his hire. It was all very well to say that they should take it as an honour, but men had to live, and if three men of equal rank were only to be offered five guineas or ten guineas for assessing perhaps 150 sets of drawings, they would never get men of standing to undertake it; they could not afford it—it was impossible. No barrister would do it, and no engineer would do it; and why should an architect?

Mr. Wills explained that the limit he suggested meant that each one of the three Assessors would get something like £20, and he did not suggest that the leading men should always do it. Small competitions might be taken by younger men, so that the hire might be suited to the labourer.

Mr. HALL said he only mentioned that as one of the facts which the Competitions Committee would have to consider if it should be sent to them to deal with. He thought they ought to deal with the whole question, and he felt strongly that they should not now commit themselves to the principle of a jury of three, but that they should consider the other alternative, which the President, with his great experience, had suggested; and he believed that that was the line on which, possibly, they might very reasonably come to a compromise on this vexed question. He urged this course very strongly on the Meeting.

Mr. HUNNARD asked if Mr. Hall intended that the two junior advisers to the Assessor should have any voting power, or only be in an advisory position.

Mr. HALL observed that that was one of the details which the Competitions Committee would have to consider very

carefully. He thought it should be an advisory position, but one which should be sufficiently strong to influence the chief Assessor who had to make the award; and he would add just one word—they must not let the public think that they were dissatisfied with the Assessor on the lines they had taught them to adopt. If they did, the public might refuse to have Assessors at all, and that would be a very grave question. Therefore it required very great circumspection before they attempted, in face of the public, to change the system. They should keep it as an Institute matter that there must be assistants to the Assessor, and the President would only appoint the Assessor on the condition of his observing the rule laid down. This, he thought, would not disturb the mind of the public, which was very important, while competitors would get what they desired.

Mr. Wm. WOODWARD [F.] said he was sorry that Mr. Wimperis had reiterated his lamentation that this subject was being brought before half-empty benches. Some of the most important subjects which had been brought before the Institute had been delivered before half-empty benches, and he had in his mind his own criticism annually on the Annual Report. It appeared to him from what Mr. Wimperis had said and from the few almost *sotto voce* observations which had come from the front of the room that the jury system had, to use Mr. Wimperis's words, broken down, and it was proposed now by Mr. Wills that it should be retained. With regard to the jury system having broken down, he thought it would be a very lamentable thing if, the Institute having practically agreed to the jury system in the recent instance mentioned, it got to the ear of the public that the Institute had expressed its disapproval of the jury system in that particular case. He thought it regrettable that that competition having been conducted practically with the approval of the profession, they should call it in question at that meeting. He thought the result had been perfectly fair. He did not say that anybody suggested that it was unfair, but the observation had been made that the jury system had broken down. With regard to the motion, it seemed hard upon a competitor engaging in a competition, the cost of which would be £14,900, if he were not to have the benefit of a jury, while the competitor in a £15,000 competition would have that benefit. If there was a competition at all, and it warranted the appointment of an Assessor, he did not think they should limit the sum at which the jury should be appointed. Again, with regard to the fees, it might be that he did not read up his Institute literature carefully enough, but he was not aware that there was any particular fee agreed upon.\* Mr. Wills stated in his opening speech that he objected to details being given by the promoters of competitions. His opinion, however, was that such details were very useful indeed to competitors. If they knew exactly what was wanted with the sizes of the various apartments, surely that must be of assistance to a man who could allocate these particular apartments to their proper positions on the site. Speaking for himself, he should not object to that at all. With regard to the list of Assessors, Mr. Wills, he thought, had suggested that there should be a list practically published, or, at all events, posted up in the Institute. That, however, would be very invidious. If they once began to publish a list of Assessors, which list had been suggested by the Council, they would very likely find many men not included in that list who, it would be thought, ought to be, and this would give rise to a kind of comment which was not at all desirable. He thought they had better not have the list. He agreed with much that Mr. Wills had said, and agreed thoroughly with a great deal that Mr. Hall had said; but after finding that

\* The note appended to the Regulations for Competitions states:—"The usual R.I.B.A. Scale of Charges for Assessing Competitions is the sum of thirty guineas, plus one-fifth per cent. upon the estimated cost of the proposed building."—Ed.

the main proposition was the jury, and after having found that a large voice in that meeting had lamented the fact that the present jury system had failed, it seemed to him it would be far better to leave this question as it was, and not to attempt to dictate too much to the promoters of competitions, because he thought directly the Institute began to dictate they would be brought under the denomination of a trade union who was attempting to force its wares, if he might use the term, on the promoters. If promoters came to the Institute and asked for an Assessor to be appointed, he personally had every confidence, whoever the President was, that the President knew the proper man to select for the particular branch of building with which that Assessor should be more thoroughly acquainted, and he had every confidence that the result would be that the proper Assessor or Assessors would be sent to the promoters.

THE PRESIDENT referred to the proposal that the question should be considered by the Competitions Committee with a view to reporting to the Council, and appealed to Mr. Wills to waive his motion and rely upon what the Competitions Committee and the Council should decide in the matter. He could assure the Meeting that the Council would approach the question with very great respect and with a wish to give it every possible attention. For his own part he had competed fairly often in his early days, and he knew something of competitions and of the duties of Assessors, and the subject had always been one of great interest to him. Recently he had had experience in The Hague Competition, and in his Opening Address of the year before last he had suggested the advisability of having an Assessor with two assistant Assessors. It had been suggested on the present occasion that those assistants should be appointed by the Competitions Committee. He saw no reason why that should not be accepted, and he saw no reason either why, if there were any serious difference of opinion between the Assessor himself and the assistant Assessors, an appeal should not be made to the President before the Award was made public. He saw no reason against that; but he assured them that the Competitions Committee first, and the Council afterwards, would approach the subject with every wish to thresh it out to a satisfactory conclusion. With regard to The Hague Competition, there was a book on the table before them containing not only illustrations of the successful designs, but also illustrations of some of the unsuccessful designs, and he thought that an inspection of these would show them that The Hague Competition with the jury system was an absolute failure. He had much pleasure in presenting this book to the Library.

Mr. Cross asked leave to make a suggestion. He was speaking on his own behalf and not on behalf of the mover, but he thought it might be an inducement to Mr. Wills if they brought before the Council at its next meeting a proposal for the co-optation of, say, three members outside the Council to serve on the Competitions Committee, with a view to crystallising the proposals that had been made that evening. He suggested that if Mr. Hubbard, Mr. Jemmett, and Mr. Wills were added to the Competitions Committee while this question was being discussed everyone, including Mr. Wills, would be satisfied.

THE PRESIDENT: I have no doubt that the Council will take that suggestion into consideration.

Mr. WILLS, after some further remarks, intimated his willingness to withdraw his motion.

The proposition that the question be referred to the Competitions Committee to consider and report to the Council was then put to the Meeting and declared carried.

### The International Competition for the Peace Palace at The Hague.

The President has presented to the Library of the Institute a folio volume containing seventy-four plates illustrating the six prize and a selection from the other designs submitted in this competition in 1906. The volume is a handsome presentation gift prepared under the direction of the Architects' Society of Amsterdam, that is, "De Maatschappij tot Bevordering der Bouwkunst," for which especial thanks will be due to the President from all who make its acquaintance.

Mr. Colclutt referred to the competition in his Presidential Address of the Session 1906-7, and it is unnecessary, even with this volume in hand, to attempt to reopen judgment upon the conduct of one of the most interesting competitions of our generation, or to allude to its relation to the, at present, burning question of assessing by jury.

We have here a conspectus of universal architectural ideals worked out upon a scheme practically unaffected by hampering conditions of special requirement or difficulty; freedom of expression has been unusually possible, and only what the architect himself feels and knows to be proper to the building of the great tribunal of the world's peace has been required of him.

The local interest of buildings, so specially preached and practised in England for half a century past, is out of court at The Hague, and without it the civil tradition of architecture vanishes; neither guildhall nor château can assist in the search for a Temple of practically arbitrated Peace, plus a library. Ecclesiastical art, itself wholly wrought in peace of them that make for peace, has no place, for the peace in view is not of the spirit but of the flesh, new in concrete idea, a late product of time, desiderating a cradle rather than a community home. Whence can the motive be drawn? Without type, analogy, or precedent how feeble is any man's thought, how void and hollow the architect's!

Since the days of the competition for the Edinburgh Public Library—won by Mr. George Washington Browns (of notable prenomens), whose reappearance among the County Hall architects has given such pleasure to his admirers—when Mr. Carnegie initiated a progress of architectural competitions throughout the kingdom, until The Hague, this public benefactor of literature and thought, as well as of ecclesiastical music, has often made architects strive to express a practical appreciation of literature in library buildings. But in asking for a Peace Palace Mr. Carnegie was asking for more than he knew, and thereupon much furious thinking, and drawing too, ensued, of which a considerable portion is embodied in this volume of designs.

"L'art de l'époque" was the motto adopted by Herr Otto Wagner of Vienna (who will do the Institute the honour of receiving it at the Con-

gress) for his design, and as so often happens in competitions under pseudonyms, it carries sympathy and explanation with it into the consideration of the design. But, of course, all the designs, whether, like Herr Wagner's, frankly modern in the latest Viennese phase of *l'art nouveau*, or, as M. Cordonnier's, really modern in its phase of adapted free Renaissance, or skilfully reminiscent of the latest eighteenth-century palaces of the Netherlands, like Herr Hocheder's of Munich, all alike are epochal if not epoch-making. *L'art de l'époque* is not the narrow individualistic view of things which cleans the slate and memory incessantly of all accumulated results.

European Classic is well represented by M. Marcel's second premiated design—Parisian, suggestive perhaps of a played-out manner—and by Herr Wendt's heavy German Classic pile; while American architects successfully vie with their European brethren in claiming heritage in the living Modern Renaissance tradition of Central Europe. The English group are manifestly outside their influence; one and all are English, not European; the incurable (virtuously so maybe) habit of looking backward, rather than forward, for movement and ideal, contains all their designs within an insular boundary of feeling, and it is really difficult to realise exactly how Modern Classic English designs, solemnly conceived and executed, appeal to the Continental critic, born and bred in an active Renaissance atmosphere.

The book has, of course, its many freak designs, interesting, charming, amusing, and distressing. Volcanic vigour and vice struggle in many, breadth and peace are but rarely attained. *L'art nouveau* is exhausting itself, Parisian Classic has almost done so, Mediævalism has now become exotic, and perhaps, after all, M. Cordonnier's freshness and quality are the most satisfactory sensations of the volume. In plan, the successful and premiated designs are quite powerful and convincing; sound planning must assert itself even in the most purely artistic and idealistic types of building. In draughtsmanship the foreign schools excel; it is of a quality peculiarly bred in the schools for the purposes of the great student competitions, compared with which our best results are meagre and dry. But in general principle, in movement, in influence, there are broadly written upon the elevations of M. Cordonnier's design, and on many others, the unmistakable results to European and universal architecture of the British school of building of the last half-century.

New life has come to the Renaissance tradition from the liberating influence of the Gothic revival. The Romantic school of design established here has pupils everywhere, and though English designers found themselves constrained, in this competition, to attempt a Continental eclecticism in Classic architecture, and thereby have not unnaturally failed, they may find in this

volume abundant testimony to the vitalising energy with which England has infected the world's thought, not in the narrower field only of decorative art, but in the greater world of architectural design.

BERESFORD PITE.

#### Mortar Experiments.

In accordance with the scheme of work sanctioned by the Sub-Committee of the Science Standing Committee of the Institute, the work of analysing samples of lime, sand, clay, trass, and pozzuolana, and making the necessary briquettes and blocks for testing the tensile and crushing strength of the mortars made with those materials in varying proportions, is being rapidly proceeded with in the laboratory of Mr. W. J. Dibdin, F.I.C., &c., Westminster, who has allocated two rooms for the special purposes of these experiments. Up to the present the various analyses are practically complete, in addition to which about seven hundred briquettes and blocks have been made and stored on shelves pending the expiration of the time allotted for breaking. As each set is tested the results are set out on a series of about eighteen diagrams, the curves thus obtained enabling the progress of the work to be watched. The periods during which the several sets of blocks and briquettes will be kept before being put on the testing machine are one month, three months, twelve months, and two years, so that the work will necessarily extend over a considerable period. In addition to the above a valuable and interesting collection of data is being obtained by the results of the analyses of a series of ancient mortars which have been forwarded to Mr. Dibdin by members of the Institute, amongst them being samples from the Roman wall under Leadenhall Market, from a Roman hypocaust at Chester, and from Allington Castle. As the special methods of investigation adopted by Mr. Dibdin set out certain features not shown in previous published analyses, the results of the investigation will be of special and peculiar interest.

H. D. SEARLES-WOOD,  
Hon. Sec. Science Committee.

#### Winchester Cathedral.

A meeting on behalf of the Winchester Cathedral Preservation Fund was held at the Mansion House on the 2nd inst., the Lord Mayor presiding. Among those present were the Archbishop of Canterbury, the Bishop of Winchester, Lord Winchester, and the Dean of Winchester. The Lord Mayor remarked on the small attendance, but expressed himself confident that when an account of the condition of this great national monument appeared in the Press, together with particulars of what was being done to make it safe for the future, the requisite funds for completing the work of restoration would be forthcoming.

The Archbishop, in the course of an eloquent address, remarked that Winchester Cathedral and its needs did not constitute a local question only, but concerned the whole country. It was the cathedral of the ancient capital of England—the centre of an empire which in the days of Canute extended from Scandinavia across the sea. The present fabric was linked up with something which, quite apart from its architectural beauty and consecrated connections with whole generations of worshippers within its walls, gave it a place in the hearts of all those who were interested in the education of the people. Nobody who knew its history in the past, or its traditions, which they desired to be fruitful in the present, would fail to put in the very first place among the founders of English education, as they knew and valued it, the name and figure of William of Wykeham. He was identified, as few men had ever been with a great building, with Winchester Cathedral. Many other places showed his designing power and skill, but Winchester Cathedral afforded a unique example of the magic of a great man in bringing his thought and powers to bear upon the work of transforming, in a way he considered wise and beautiful, a monument of the past into the noble and dignified monument that we had at present. He wished God-speed to those who had undertaken a difficult task, and he trusted that they who felt no less interested than the people of Winchester in the Cathedral would help to set things straight and to make the fabric strong.

The Dean of Winchester (Dr. Furneaux) said that, so far as could be seen at present, they would require £86,806 to carry out the necessary work. There was no security, however, that, as the work proceeded, they would not find further mischief, requiring the estimates to be increased. So far £51,621 had been received, leaving them to raise £35,185. To obtain the last £20,000 or £30,000 was always a hard task, and he looked forward with some anxiety to raising the balance of the amount required. The subscriptions had unfortunately shown a little falling-off of late. They owed a deep debt of gratitude to the City Companies. The Goldsmiths' Company had given, first, £500, and then £5,000, and had undertaken the entire expense of repairing the west front, and the Mercers', the Merchant Taylors', and the Clothworkers' Companies were among the other City guilds which had generously contributed.

Mr. T. G. Jackson, R.A., thought that the misfortunes of the Cathedral began almost as soon as it was built, owing to the foundations having been built on what was originally the borders of a bog. The eastern part of the Cathedral had been underpinned, and might now be regarded as secure. He described the cracks and fissures in the walls of the south transept. This had now been shored up in such a way that he hoped it would "go on crutches" until there were funds to put it right.

The north transept was in hardly a better condition. In one corner twenty-five tons of concrete had been injected. They now had to leave further work there for want of funds. As to the rest of the building, a good deal required to be done, but fortunately it was not in such a bad state as the parts he had mentioned.

Lord Winchester, referring to the criticism which had been levelled against the manner in which the restoration had been carried out, said that on their side they were quite satisfied not only with the care which their architect had taken to preserve the majesty and beauties of the fabric, but with the skilful way in which their engineer had carried out the work.

The Bishop of Winchester stated that the response throughout the diocese of Winchester to the fund had been very generous, and, in view of the support which they hoped to obtain in London and throughout the country, they felt confident that the work they had undertaken would be achieved during the next few years.

## THE WOODCARVER AT ST. PAUL'S.

25th February 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—Mr. W. J. Gribble's reprint is very interesting, but has he satisfied himself that it is not a forgery? I wish I could give him the reference where I have previously seen it reprinted, and also another reference to a dismissal of the same as an obvious falsification. I should be much interested to know that it is undoubtedly genuine, but I am afraid, on the face of it, that there is considerable reason for the doubts which I have seen thrown upon it, in spite of a certain degree of apparent simplicity in the contents. Readers of the *Carved Cartoon* will recall the ingenious use of fragments of Pepys and Evelyn to weave a romance round the name of Grinling Gibbons.—I am, Sir, very respectfully yours, ARTHUR T. BOLTON [A.].

The Athenaeum, 27th February 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I am sure that many members of the Institute have read with great interest a letter printed in your JOURNAL of the 22nd inst., upon the authority of Mr. Gribble, under the heading "The Story of a Woodcarver of St. Paul's." The title is calculated to excite curiosity, and as I read the letter which purports to have been written early in the September of 1699 by the ingenious—or should it be ingenuous?—young countryman "Phillip Wood from London" as Mr. Gribble calls him—curiosity changed to amazement, bewilderment almost. The extreme modernness of the diction, of the ideas, and of the spelling in this

pretty and touching "short story"—for it is really not so much a letter as a complete romance in miniature, skilfully recounted—quite confounded me. I compared with it a letter of Grinling Gibbons, written some fifteen years previously, and of which a reprint appears in the notes to Wheatley's *Evelyn*: I was charmed to see how much our artizans had improved in education in that short time. Again, I compared with it a letter of Sir Christopher Wren's, written barely three months before that of the ingenuous young woodcarver who reads "Master Shakspear his works" as he wanders about the fields of Sudbury, and sells a boxwood carving to Mr. Addison or Addington—he is not sure which. I was charmed to find that he spells and expresses himself in more modern wise than Sir Christopher himself. It is a pity that this remarkable document should be veiled in the anonymity of "a manuscript preserved in the British Museum." All the manuscripts in that library are, I believe, carefully catalogued: will not Mr. Gribble or his correspondent favour us with the name of the collection in which the letter appears, and its number? In the meantime I should like to make a few observations which occurred to me on reading, and re-reading, this truly remarkable document. Up to the year 1709, when Tonsen published his octavo Shakspear in six volumes, the only edition of Shakspear's works which had appeared were the first four folios, all of them handy little volumes about 13½ inches by 8½ inches, containing some four hundred pages. Did the ingenuous Phillip (who, I notice, writes him down as "Shakspear," though he is always spelt "Shakspear" in the folios: I note this because his spelling is generally so accurate) slip his folio into his pocket as he went to walk in the fields of Sudbury? He must have had a special pocket. Further, as to Mr. Addison or Addington. I have suffered a great disappointment over this, as I had hoped there was in it some reference to a well-known man of the day. Addington I had at once to dismiss: the well-known politician of that name flourished one hundred years later; so there remained Joseph Addison. I find that he was in 1699 but twenty-seven years of age, not yet known to fame, and very short of funds; so he is unlikely to have given ten guineas for a piece of carving, more especially as in August of that year he was already in Paris, on his way to Italy. This, alas! extinguishes the hope that another proof of his well-known humanity had been unearthed. The references to carving in Melford and Sudbury churches, the "elephants and lions" carved for Master Ralph Haybittle, the identification of the amiable Quakeress of 9 Ivy Lane, offer a wide field for research and enquiry; but this letter is already long. I cannot help remarking, however, on the interesting light thrown on the procedure of those days and on Wren's character by those remarks

of his recorded by Phillip Wood. "I engage you, young man; attend at my office 10-morrow forenoon." He is not to work with the other carvers on the job or in the shop, under Grinling Gibbons, but goes straight to work in the architect's office. How few of us would have behaved in that way! How unlike what we know of Wren, too, is his sententious remark to the bashful Phillip: "A great national work is entrusted to my charge: it is my solemn duty to mind that no part of the work falls into unworthy hands." This is more like "the Nelson touch" than the words of a great scientist and truly modest man. I think we owe great thanks to Mr. Gribble for bringing the letter to our notice, and I trust he will complete the kindness by acceding to the request made above, and enabling us to identify the document among the thousands in the British Museum.—I am, Sir, yours faithfully,

AMMOSE POYNTER [F.].

P.S.—I notice in your issue of 7th December 1907, p. 14, Mr. Ralph Nevill's letter on brickwork, in a footnote to which he states that the reference in a document of 1437 to the "bere-brewers" "considerably antedates the time generally assigned for the introduction of beer into England." Beer, unless I am badly mistaken, has been brewed in these islands for 900 years at least. Breweries are referred to in the Assize of 1212, which regulated building in London, and Burton-on-Trent was in the thirteenth century already known for the excellence of its water for brewing purposes. Perhaps I have misunderstood Mr. Nevill, but he makes his statement without qualification.—A. P.

\* \* Mr. Gribble's attention having been called to the doubts cast upon the genuineness of the woodcarver's letter, he replies under date 2nd March: "With reference to the authenticity of the 'Story of a Wood-carver,' I can only say that my informant copied it from some magazine, of which he has forgotten the name, some twenty-five years ago. The spelling and punctuation have no doubt been modernised in many places. I am unable to give any reference by which it may be found at the British Museum, but probably the authorities there could set the matter at rest." In a later letter Mr. Gribble states that he is making inquiry at the Museum.

Mr. W. T. Oldrieve [F.] asks us to mention that the two illustrations of ceilings of Holyrood Palace in his paper on Royal Scotch Palaces [JOURNAL, 25th January] were reproduced from prints inadvertently taken from negatives belonging to Mr. George F. Bankart, and prepared expressly for his book on "The Art of the Plasterer" to be published shortly by Mr. Batsford.

## MINUTES. IX.

At a Special General Meeting held Monday, 2nd March 1908, at 8 p.m.—Present: Mr. Thomas E. Colclutt, *President*, in the Chair; 33 Fellows (including 15 members of the Council), and 23 Associates:—

The President announced that the Meeting was convened, pursuant to By-law, for the purpose of electing the Royal Gold Medallist for the current year, and moved, in accordance with notice, that M. Honoré Daumet be elected for the honour.

Mr. Alexander Graham, F.S.A., *Hon. Secretary*, seconded the resolution, and gave a brief account of M. Daumet's professional career and works. Whereupon it was

RESOLVED, by acclamation, that, subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of Architecture be awarded this year to M. Honoré Daumet, Membre de l'Institut de France [*Hon. Corr. M.*], for his executed works as an architect and for his distinguished services in the cause of architectural education.

The Special Meeting then terminated.

At the Ninth General Meeting (Business) of the Session 1907-08, held at the conclusion of the above-minuted Special General Meeting and similarly constituted, the minutes of the Ordinary General Meeting held Monday, 17th February 1908 [p. 277], were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President—viz. James Davidson (Coatbridge, N.B.), John Arthur Smith (Basingstoke), Henry Victor Ashley, *Fellows*; and William Godfrey Milburn, B.A. Oxon., *Associate*.

The Hon. Secretary having formally acknowledged the receipt of books presented to the Library, a cordial vote of thanks was passed to the donors.

The following candidates were elected to membership by show of hands under By-law 9:—

## AS FELLOWS (9).

HENRY MARTINEAU FLETCHER, M.A. Cantab.  
LAURENCE KIRKPATRICK HALL.  
EDWARD MANSELL (Birmingham).  
GODFREY PINKERTON.  
CHARLES HENRY BOURNE QUENNELL.  
THOMAS ROBERT RICHARDS.  
WILLIAM GARDNER ROWAN (Glasgow).  
MAXWELL MABERLY SMITH, B.A. Cantab.  
WILLIAM B. WHITIE, Glasgow.

## AS ASSOCIATES (31).\*

ANNESLEY HAROLD BROWNINGG [*Probationer* 1903, Student 1905].  
WILLIAM THOMAS CLARKE [*Probationer* 1901, Student 1904].  
VERNON CONSTABLE [*Probationer* 1902, Student 1904].  
HENRY RALPH CRABB, Assoc. M. Inst. C.E. [*Probationer* 1901, Student 1901].  
JOSEPH BERKELEY CUBEY [*Probationer* 1900, Student 1904].  
FRANK DONALDSON [*Probationer* 1904, Student 1905].  
JAMES WESTBROOK FARMER [*Probationer* 1899, Student 1903].  
GEORGE HARRY BERTRAM GOULD [*Probationer* 1900, Student 1904].  
PETER KYDD HANTON [*Prob.* 1905, Student 1906].  
EDWARD HAROLD WALDEGRAVE HARLOCK [*Special Examination*].  
JOHN ANSTICE HARRISON [*Special Examination*].  
ALFRED JOHN HEALEY [*Prob.* 1900, Student 1904].

\* The Candidates for Associationhip passed the Qualifying Examination in either June or November of last year.

HENRY LEICESTER HICKS [*Probationer* 1902, Student 1905] Newcastle-on-Tyne).  
FRANCIS HENRY JONES [*Special Examination*].  
ALLAN SCOTT MILLAR [*Probationer* 1898, Student 1902].  
CHARLES PERCY MOSS [*Probationer* 1897, Student 1901].  
STUART MILL MOULD [*Probationer* 1894, Student 1897].  
ARNOLD PEARSON [*Probationer* 1901, Student 1903].  
CECIL ROSS PINSENT [*Probationer* 1901, Student 1903].  
ARCHIBALD PURSGLOVE [*Probationer* 1901, Student 1904].  
WALTER ADOLPHUS RITCHIE-FALLON [*Probationer* 1906, Student 1907].  
MAX EDWARD STAHL [*Probationer* 1903, Student 1904].  
LEO SYLVESTER SULLIVAN [*Probationer* 1898, Student 1903].  
JOSEPH HENRY TAYLOR [*Probationer* 1899, Student 1901].  
GILBERT MACKENZIE TRENCH [*Probationer* 1901, Student 1904].  
CECIL TREVITHICK [*Special Examination*].  
PERCY FRANCIS WARREN [*Prob.* 1901, Student 1904].  
ROWLAND WELCH [*Special Examination*].  
GERALD BERKELEY WILLS [*Probationer* 1902, Student 1905].  
CHARLES WOODWARD [*Probationer* 1897, Student 1899].  
EDWARD LANCELOT WREN [*Probationer* 1901, Student 1904].

## AS HON. ASSOCIATES (2).

THOMAS BROCK, B.A.  
WILLIAM JOHN LOCKE, B.A. Cantab.

Mr. Herbert W. Wills [A.], in accordance with notice, moved the following resolutions:

1. That for all competitions for buildings of £15,000 and upwards a jury of three Assessors be appointed.
2. That the fees paid to such Assessors be the same in total amount as the fee hitherto paid to one Assessor.

Mr. A. W. S. Cross, M.A. [F.], seconded the resolutions. Mr. George Hubbard, F.S.A. [F.], seconded by Mr. Frederick Chatterton [A.], moved as an amendment: That this Meeting approves of the principle of the jury system in assessing competitions; and that the question be referred to a Committee of the Institute to consider and report.

A suggestion that the Committee to deal with the matter, as proposed by the amendment, should be the Competitions Committee was accepted by Mr. Hubbard.

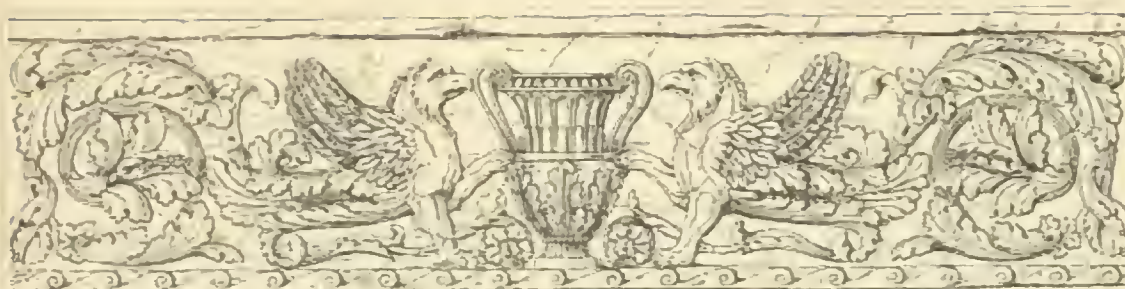
The sense of the Meeting being expressed in favour of the amendment, Mr. Wills, at the instance of the President, consented to withdraw his resolutions, and it was finally resolved that the question should be referred to the Competitions Committee to consider and report to the Council.

The President stated that the Council would consider a proposal by Mr. A. W. S. Cross that three members outside the Council should be co-opted on to the Competitions Committee to assist in their deliberations on the subject.

In the course of the discussion, a suggestion of the President in his Opening Address for the Session 1906-8—viz., that an Assessor of a competition should be aided in his duties by two advisers, who should have no voice in the ultimate decision—was favourably commented upon.

The President drew attention to, and invited inspection of, the volume of designs submitted to The Hague Competition, which he had presented to the Library [see p. 304].

The proceedings closed, and the Meeting separated at 9.30 p.m.



## BANGOUR VILLAGE ASYLUM.

By HIPPOLYTE J. BLANC, R.S.A. [F.]

Read before the Royal Institute of British Architects, Monday, 16th March 1908.

IN venturing to invite your attention this evening, I am conscious that what I have to bring before you is not altogether new. I trust, however, it may be found acceptable as a contribution of a recently completed asylum example to the efforts of the medical faculty and of our own profession towards making more comfortable the condition of those unfortunately afflicted with mental disease. Happily for sufferers, the disease in the present day has no longer the stigma attached to it, arising from ignorance and superstition, of former times. It is only a few decades since, that those afflicted were treated with inhuman disregard, locked up and chained in miserable apartments, with worse sanitary conditions than were then provided for the greatest criminals. Those conditions have given place to a greater measure of freedom, to careful nursing under the most perfect sanitary arrangements, and to the selection of situations for buildings having cheerful surroundings, all as the result of increasing knowledge and study. Many cures have thereby been effected, and a healthful appearance is evident among the industrial patients in all modern institutions. Moreover, under classification in recent years, the separation of those of more sensitive temperament from the restless and noisy, has greatly assisted other curative measures adopted. Statistics, notwithstanding, show a continuing increase in the number of those under treatment. This may be accounted for, however, by the recent more stringent operation of the lunacy laws, by which many who would formerly have been left outside are now being drawn into asylums. Many a harmless village "natural," who was allowed absolute freedom, has now been compelled to come into the district asylum, thereby swelling the numbers in the annual returns. The death-rate in asylums has also been much reduced. A probable normal percentage of patients to population will possibly be arrived at in course of years, as the study of cases in their earlier stages of disease enables the medical faculty to combat its development.

With the many differences of temperament among insane patients, the necessity became clamant to classify them when brought together in one institution. These classifications are very various, but only two leading divisions have for the most part been adopted: one, based upon the prevailing mental symptoms; the other, the ætiological, upon the probable causation of the disease. The first classification was initiated by Pinel of France, who very early in his practice removed the restraint of chains and manacles from the patients: the second was first practised by Dr. Skue, of Edinburgh, about 1840.

Of the two main divisions of treatment in vogue now, the first aims at restoring all the organs and functions to right use by healthy occupation and by proper nourishment; the second consists in careful observation and control, companionship and distraction of the mind

from morbid thoughts by suitable occupation and amusement; also guarding against the dangers of suicide and homicide. In this will be recognised a great advance of humane treatment as against the former cruelty of stripes and tortures. During the first half of the nineteenth century, in France and England simultaneously, the practice began of applying special skill and science for the treatment of the insane. Strait-jackets were abolished and non-restraint adopted.

The next advance was the adoption of the Belgian system to be seen at Gheel, where the insane are boarded out under supervision among private households. This practice is undoubtedly the precursor of the village system of to-day. The boarding-out system for harmless patients has long existed in Scotland, and is still extensively adopted.

In a very exhaustive and instructive Paper by Mr. G. T. Hine, read before this Institute in 1901,\* the author dealt historically with the best known examples of hospitals for the treatment of the insane, and dealt specially with the planning of modern asylums in both England and Scotland, noting that they are administered under different laws. The examples illustrated were chiefly of the corridor and pavilion type, and showed the chief differences in plans adopted in each country. Reference was also made to examples of the village principle as adopted in Germany, and specially to the asylum at Alt-Scherbitz, in Saxony, which is probably the originator of the type. Mr. Hine concisely described it, and noted that the principle is adopted in many modern American asylums.

With a closer and increasing knowledge of the nature of mental diseases, improvement in the arrangement of accommodation required has been very rapid. So much is this the case that it may safely be predicted that in the majority of future undertakings, instead of the "pavilion and corridor" type, the "segregate or village" arrangement will be preferred. It will be found primarily more economical to construct, and secondarily more advantageous both for patients and for those who have to administer. The most important advantage, however, will be found in the greater facilities afforded for classification; and, if anticipated in the selection of a site, the facilities for increasing the accommodation for patients is limited only by the ability of the administrative department to supply accommodation to meet the increase. Such additions can be made without having to dislocate any of the pre-existing buildings.

With regard to our special subject—namely, Bangour Village Asylum—I have to explain that when, under the new order of the Commissioners in Lunacy for Scotland, in 1898, the Edinburgh Parish Council resolved to form a lunacy district for Edinburgh and erect an asylum, they became exercised upon the question of the form the asylum should take. The late Sir John Sibbald, one of the Commissioners, founding his idea on the German system as at Alt-Scherbitz, strongly advocated it in a pamphlet circulated among the Edinburgh Board. The result was the adoption of that type of arrangement, and "instructions" were issued to competing architects framed on the principle of segregation as illustrated in that institution.

The estate required is about fifteen miles from Edinburgh and twenty-nine from Glasgow by rail on the same line. It extends to 950 acres, the site occupied by the asylum being about 150 acres. It lies on the north of the public road between Edinburgh and Glasgow. From this road the asylum ground slopes northwards, rising about 100 feet in 2,500 feet, an average of 1 in 25 feet. At the north boundary it is about 600 feet above sea-level. The site presents no features of special interest, excepting a diminutive stream which modestly wends its way in a quasi-tortuous fashion near its southern boundary. The length of frontage to the main road or south boundary is about 1,300 yards. The site is historically interesting as having been the property of one of Scotland's well-known minor poets, William Hamilton of Bangour, in the eighteenth century (1704–1754). Since his time the estate has been farmed as partly arable and partly grazing land. The original mansion-house has long since passed away, but on

\* "Asylums and Asylum Planning," by George T. Hine [*F.*] JOURNAL R.I.B.A., 23rd February 1901].





another part of the estate a farmhouse and relative offices were erected about eighty years ago, and these form the nucleus of the chronic or industrial section of the present asylum.

In laying out the scheme, the plan submitted was agreed to, namely, to dispose the buildings in two main groups, one, the "Medical or Observation," to occupy the eastern portion of the site; and the other, the "Chronic or Industrial," to occupy the western.

Access is obtained by a road formed from the public highway, nearly midway between the two groups of buildings. The approach is without gates, enclosures, or lodges. The nearest building, which is well within the estate, is the steward's house, beyond which are the power-station and workshops, the bakery, stores, and kitchen, also the wash-house and laundry, these being grouped comparatively close to each other, and within 150 yards of the boiler-house, from which steam is supplied to them. An improvement in this disposition could be effected on a more uniform site by combining the whole of these buildings in one connected group.

To the right of these on the site are the buildings composing the medical section, and to the left those of the industrial. Of the former there are already erected in a central position the administrative house, to which are attached admission house for male and female patients—forty of each sex—these being the only buildings erected with corridor connection. Round about these are disposed four of the intended eight "closed villas" for both sexes, nurses' home, and hospital. At the extreme east boundary is placed the mortuary, and purposely on low ground to avoid being conspicuous to the patients.

The chronic or industrial section on the western area is subdivided into two groups—one for female and the other for male patients—each having its routes of intercommunication, but, as groups, placed widely apart. This western area has erected upon it at present five houses for male and four for female patients, with an ample space for additional homes when required. In all asylum buildings it has been found necessary to provide more accommodation



ELEVATION.



GROUND FLOOR.

FIG. 1.—OBSERVATION BLOCK: PLAN.

for female than for male patients. It is not so in this instance, at present, owing to unavoidable special requirements at the beginning of building operations. This will adjust itself in time. In the western area a site is retained for a small isolation hospital yet to be built. At the extreme north-west of the site lie the farmhouse and offices.

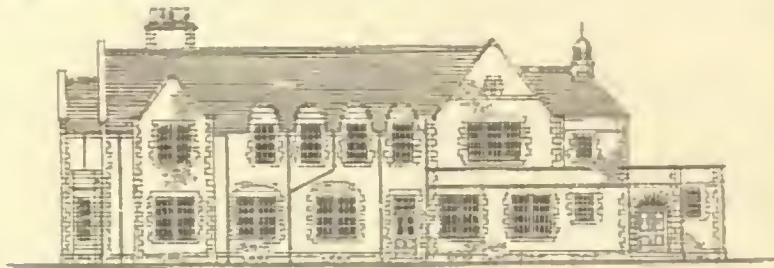
A greenhouse and very ample kitchen garden—indispensable appendages—find a most suitable site on an extensive slope south of the farm offices.

From these general notes an idea may be formed of the present extent and disposition of the buildings. No boundary walls enclose any of the houses, nor are there fenced areas with their associate garden walks and shrubberies to maintain, all roads and walks being open as in

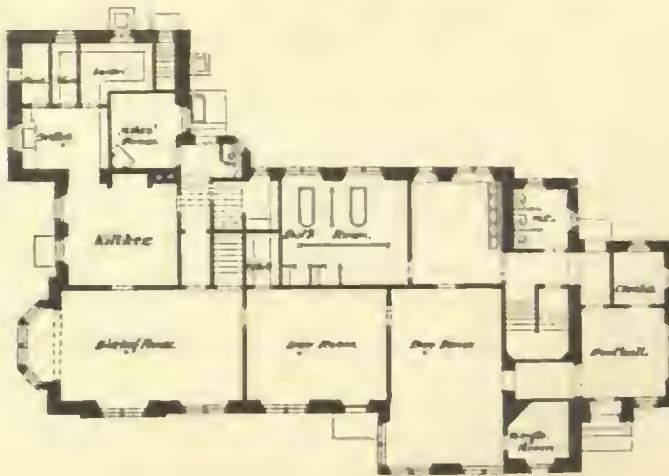
an ordinary village. There is throughout an absence of official institution character, and instead, the appearance is that of an ordinary city suburb.

While the purchase price of the 950 acres of land was exceedingly moderate—414 per acre—its isolated situation entailed special costs to render it serviceable for the purposes of its acquisition. A branch railway had to be constructed to facilitate the conveyance of building material. A water supply also had to be introduced from a source about two miles to the west of the site, with relative reservoir, filter beds, sluices, and water-keeper's residence. The water conduit was laid up to the farm buildings, from whence it is now distributed over the whole site.

Having regard to the fact that no system of drainage existed nearer



ELEVATION.



GROUND FLOOR.

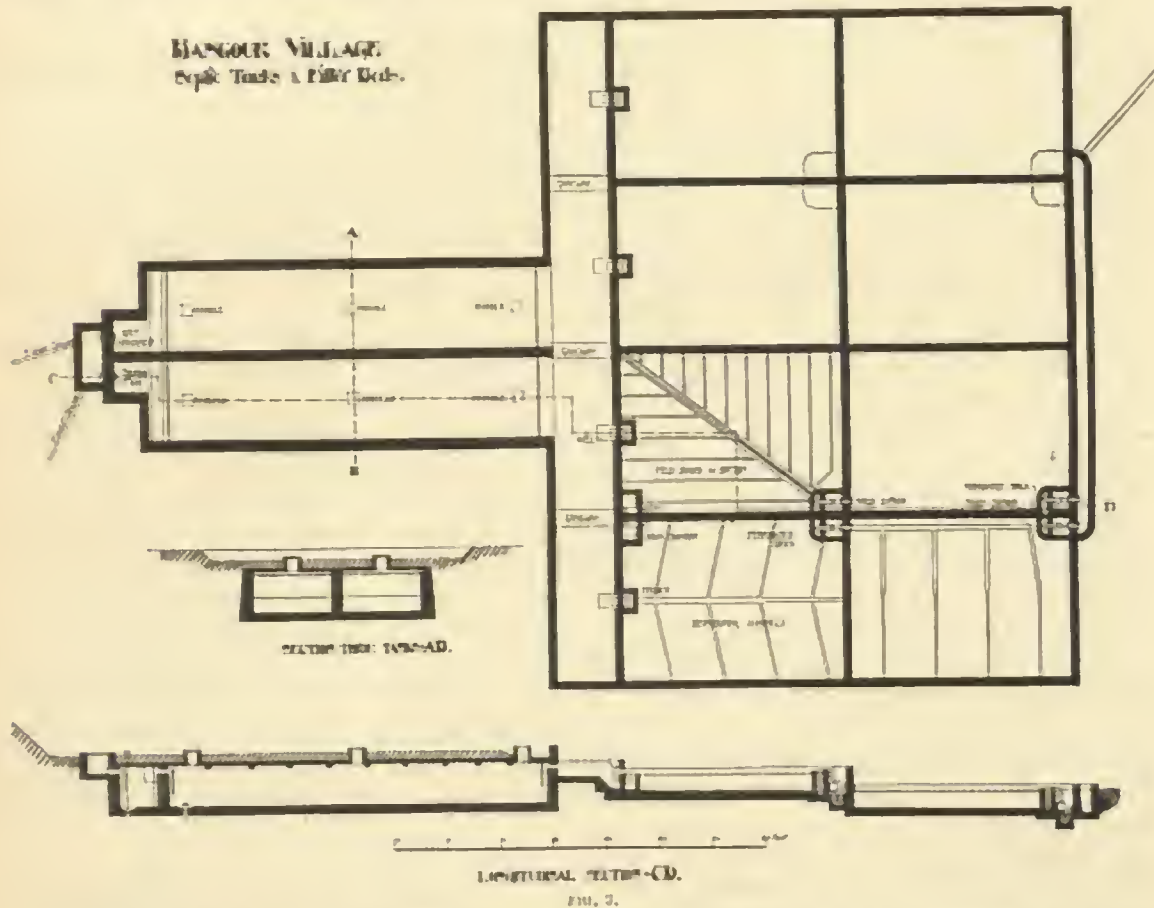
FIG. 2.—ACUTE (LEFT: PLAN).

[See First Floor PLAN, p. 322.]

than about two and a half miles, recourse was had to the adoption of the excellent modern septic system, the purified effluent from which is finally carried away by the stream already referred to. All surface water from roofs and roads is conveyed in separate pipes, and collected to form a pond in a natural existing basin near the centre of the site.

The septic tank and filter beds are about 178 feet by 128 feet over all, large enough to provide for the treatment of an average of sixty gallons of fluid per day per patient, which for the intended number of 1,000 patients is equal to 60,000 gallons capacity. But as forty gallons per day per person is recognised as a very ample provision it will be seen that the tanks are more

than ample for the requirements. The installation is of the very latest approved construction, in respect that instead of what is usual in such, namely, single contact of the sewage over a cinder bed, a double-contact bed and filtration at a lower level have been provided in this case. The resultant effluent is thus rendered perfectly clear and innocuous.



The subject of heating formed a very important consideration in this segregate arrangement of asylum, but after careful study it was decided to treat each house as a separate self-contained subject, each with its own furnaces for hot-water circulation and for atmospheric heating respectively. The atmospheric heating can thus be regulated according to the respective needs of each house.

Each home is provided with electrical appliances for ventilation by fans, wherever special ventilation is considered essential, such as in the boot-rooms and lavatories. For all dayrooms and dormitories ventilation is provided by the windows. Electric current is generated on the estate. There are three boilers (with space for a fourth), each capable of evaporating 7,500 lb. of water per hour, and working up to a pressure of 130 lb. Two of the boilers are sufficient to meet the present requirements for dynamos, for the electric-lighting supply and motor power, also for the supply of steam for cooking and heating of a limited number of buildings. Accumulators charged during the day are provided for night requirements.

Communication between the different homes is provided for by an installation of the telephone, the centre or exchange for which is at the administrative house; and for

uniformity in regulation of time the various clocks throughout the institution are synchronized by a system of communicating electric wires connected to a main regulating and controlling clock at the administrative house.

Before giving detailed explanation as the slides appear on the screen, the following general notes may be found useful.

First, as regards the homes, the accommodation generally consists of:—Day-rooms, dining-room with kitchen and servery adjoining, scullery and storerooms, lavatory, w.c.'s, boot-room and cloak-room, also nurses' dining-room, all on the ground floor. On the first floor: dormitories, nurses' rooms, one w.c., housemaids' pantry, and bathroom. A third floor occurs in one or two of the homes where additional dormitory accommodation is required. Each home has its own kitchen and scullery for dealing with any special diet; all kitchen utensils used in the homes are cleaned there. Each home is provided with two staircases, in simultaneous use, to meet patients for cases of emergency.

Water-closets are fitted in series according to the number required in the respective homes. The model adopted is the white glazed pedestal wash-down. The silent flush cistern is of white enamelled iron, all corners being rounded and the cover sloped back, on all sides. No chain nor connecting rod is visible, the flush being produced by a gentle pressure of the finger upon a pin concealed within a slotted tube attached to the wall. There are no knobs or projections of any kind to which patients of suicidal tendency can attach a hold. The divisions are of Sicilian marble  $1\frac{1}{2}$  inch thick, recessed into the wall, projected 4 feet 6 inches, and supported at about twenty inches from the floor on gun-metal brackets. The total height from the floor is about four feet six inches. Floors are laid with terrazzo rounded at the angles of the floor and walls, which are tiled. No urinals are introduced in any of the homes. Cross-ventilation is provided by windows. The water-closet wing is in height a single story only, no occupied buildings being built over it. Each, in addition to cross-windows, has an extract shaft carried up in the main gable, with electric fan, for ventilation.

The lavatory apartment is, in each home, arranged adjoining that for the water-closets. The basins are separate white glazed earthenware projected from the wall on brackets. There are no traps in the pipes, which spill directly into a continuous open gutter formed in the terrazzo floor.

There is no general bathhouse. A special detached building was at one time proposed, but abandoned owing to the risk to patients, under unfavourable weather conditions in an uncertain climate, passing between their homes and the bathhouse. Each home consequently has its own bathroom containing one, two, or three baths, according to the number resident, separated by low screens, and with semi-enclosed dressing boxes. The baths are of special make from purpose-made drawings. They are lower than usual, the top, to afford a rest for the patient while being dried, having a 5-inch broad flat instead of the usual heavy roll. The cope is also rounded with a shallow cavetto on the under side to prevent the patient securing a hold.

As already noted, the homes are each furnished with two boilers, the segregate arrangement whereby the homes are distributed over the site making the supply of steam from the boiler-house wasteful and expensive. All furnace chambers are sunk, and enter from the outside in order that any inconvenience from smoke may not affect the comfort of the patients in the home, as would certainly arise were the chamber in direct communication with the interior.

A matter of importance under the Commission of Lunacy Laws is the control for opening windows, which must not be raised beyond five inches. Having regard to this, the following patent has been adopted. Instead of the ordinary ropes and weights, lifters and

fasteners, a toothed wheel with double ratchet is attached to the upper and lower sashes. The sashes are constructed with divisional astragals, which enable the lower sash to be raised by hand. The raising of the lower sash actuates the toothed wheels on the styles at each side of the windows, causing, by reverse simultaneous action, the upper sash to descend. The advantage is that no mechanism whatever is visible for patients to tamper with, the sashes being equally balanced; neither ropes, weights, nor counter-check fasteners, nor rods for lowering the top sashes, are required. Moreover, by the equal opening of both sashes, a natural circulation of air is obtained. For wards wherein are bedridden patients, who might be inconvenienced by the passage of air so near where they lie, baffle-boards are placed on the sill, fastened between the batten rods. The entering air current is thereby diffused. The cost of hanging a double sash in the usual way is 13s. 10d., while the cost of the patent, which meets all the requirements more simply and effectually, is 12s. 6d.

To simplify reading the plans, it is proposed to start the series at the power station and take up those in the west or industrial section, returning on the north and terminating with those on the east or medical section.

#### POWER-STATION AND WORKSHOPS.

These are grouped in one oblong block, 220 feet long by 140 feet wide. It adjoins the railway siding, from which coal is delivered direct from the trucks through shoots into a large coal store of 200 tons capacity, in front of the boilers. Attached to the latter is an installation of Green's Patent Economisers. The chimney, 125 feet in height, rises from a small courtyard outside the boiler-house. Behind the boiler-house are the dynamo hall, the accumulator room, and the engineer fitter's shop, and alongside is a large quadrangle (105 feet by 95 feet), on two sides of which are the workshops for the painter, smith, cabinetmaker,



FIG. 4.—RANGOUR VILLAGE ASYLUM: PLAN OF WORKSHOPS, ENGINE, AND BOILER-HOUSE.

npholsterer, carpenter, shoemaker, plumber: also clothes store, cement store, clerk of works' office, &c.; while, on the other two sides, accommodation is provided for the storage of 100 tons of household coal, a shed for implements and wood, and a large chamber for disinfecting clothing by steam. The engineer's residence is near by.

#### THE BAKERY.

The bakery is a small building, measuring externally 65 feet by 31 feet. There are two ovens, one, the ordinary "Scotch oven," capable of baking 300 two-lb. loaves at a time. The other is a

"draw-plate" oven, which is capable of baking 256 two-lb. loaves, and can deal with three batches per day, fired with coke. The machinery for dough-mixing and other requirements is actuated by electric motor. There is a part upper floor of L form on plan for the storage of flour, which is passed down in shoots to the machines below. The gallery floor is of cement. The area of it will accommodate 200 bags, or 400 if a double layer is laid on, as is intended. The accommodation is complete with coke-store, bread-cooling room, &c.



FIG. 5.—BANGOUR VILLAGE ASYLUM: PLAN OF KITCHEN AND STORES.

#### KITCHEN AND STORES.

The store and kitchen are together in one block, about 131 feet by 114 feet, but are separated by a covered arcade, 28 feet wide, for accommodating vans delivering goods, and also for those conveying food from the kitchen to the patients' residences. The store is a large apartment, 85 feet by 36 feet, for the reception and general classification of goods, with a gallery

all round for soft goods. A boot-store is in a large annexe entering off the gallery. Goods are raised by means of an elevator. At one end of the store is a specially constructed cold store, with motor and brine pump-chamber adjoining, for the preservation of food in hot weather.

The kitchen is a lofty hall, 65 feet by 40 feet, with all necessary coppers, steam-chests, &c.

A special feature in the kitchen is a large range of hot presses, divided into a series of compartments, specially heated by batteries of pipes. For each compartment there is a travelling wagon on rails. It is rolled out on the kitchen floor, and upon a series of shelves within it jacketed tins containing the food for the several residences are placed. The wagon is then replaced in the hot press, to be withdrawn on the arcade side, the food-tins

withdrawn and placed in a van for distribution. The whole food can be distributed over the various houses in about twenty minutes without sensible diminution of heat.

The vegetable and washing sculleries and other relative accommodation form part of the kitchen block. The cook and workers in this department also have their rooms in an upper floor of the kitchen building.

#### WASHHOUSE AND LAUNDRY.

The washhouse and laundry block measures 102 feet by 80 feet outside. In the washhouse are washing machines and hydro extractors, and, as a means of giving occupation to the patients, there are a few ranges of hand washing tubs. A supplementary annexe, of lesser area, with machinery for special washing, is attached. The receiving-room for soiled linen is at one end of the washhouse. It is fitted with a series of bins for the classification of goods.

The laundry, which, like the washing-house, is 71 feet by 30 feet, abuts on the washhouse in parallel axis, between them being two drying closets. These closets are filled from the washing-house side, and the clothes withdrawn, after being dried, on the laundry side. Hot air from a battery of steam pipes is driven through these closets by a large fan so controlled as to admit of filling or emptying under cool conditions each closet. Machinery is largely employed for ironing and dressing, but, in addition, there are special tables fitted for hand-dressing. When finished all goods are passed to the delivery-room at one end of the laundry for distribution by van. The dispatch door adjoins that for receiving, the goods in the course of clearing having thus to pass round from one door to the other by first the washing-house and next the laundry. An afternoon tea-room is provided in the laundry for the use of patients.

#### FEMALE INDUSTRIAL COLONY.

The female industrial colony is to the west of the laundry. It comprises four homes, affording accommodation for 190 patients. For convenience, the laundress' home for forty-six patients is nearest the laundry, the other three being placed at about fifty-yard intervals. The patients in these are employed on dressmaking and other needlework.

#### FARMSTEADING.

The farm at the north-western corner of the site is created from a few pre-existing buildings. A well-lighted and ventilated byre, about 132 feet by 83 feet 6 inches, with stalls

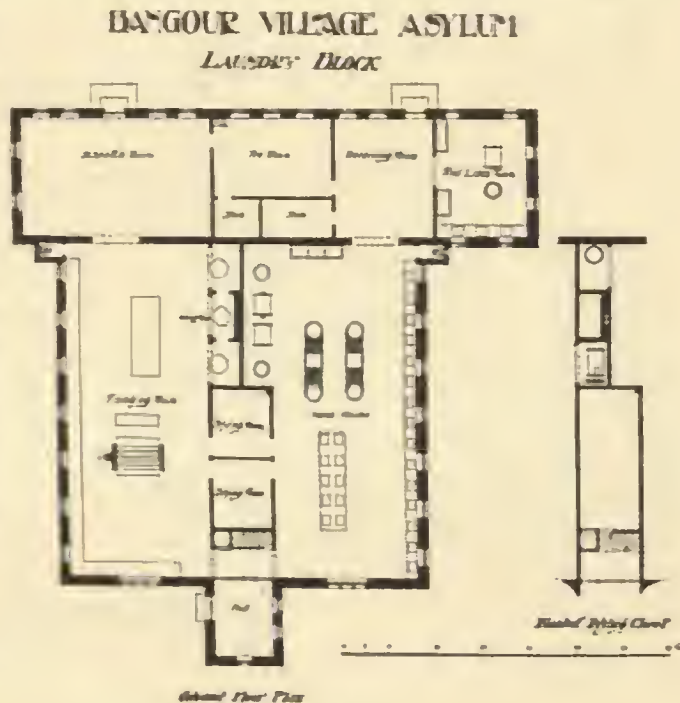


FIG. 6.

for sixty-four cows in pairs, is on the south of the series. Accommodation for dairy requirements, boiler-house, and food-stores occupy a parallel range of building on the other side of a separating corridor and have a north aspect. All liquid manure from the byres is by a special contrivance separated and conveyed to a large covered tank in the kitchen garden adjoining, to be distributed when required.

The buildings also comprise: a young cattle shed and calf-house, also a range of twelve pens for fattening pigs, stables and coachhouse, van sheds, and boiler-house for preparing food. A special piggery for breeding stock and a slaughter house are on the west side attached to part of the original group of buildings. In the piggery there are twenty large pens formed with cement divisions, also a covered courtyard. The floors are of cement and the walls faced

*BINGHAM VILLAGE ASYLUM*  
*Early Stages:*

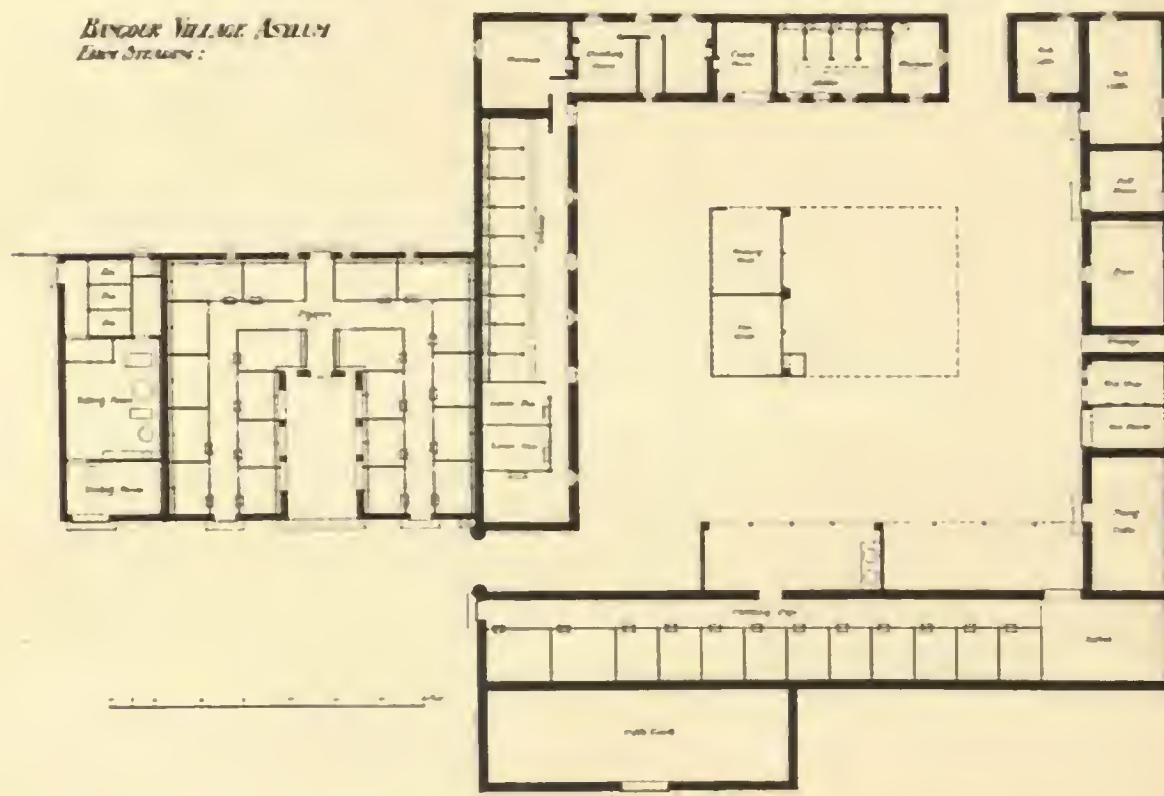


FIG. 2

with cement plaster, thus enabling the whole to be readily flushed out by hose. The cattle entrance to the slaughter-house is at one end of the building. The gates of the enclosure are so hung as to prevent cattle moving from the pens there except in one direction. From the pens the cattle are led to the killing-house, in which are special appliances for carrying out the several operations required. The carcase is then wheeled along to the cooling chamber, from which it is removed by van to the meat-store.

Farm workers' cottages and a grievance house are erected on a site conveniently near the farm buildings. The accommodation in each consists of two rooms, kitchen, scullery, and w.c. The grievance house has an extra room.

The farm workers are accommodated in the original farmhouse, readapted for twelve patients.

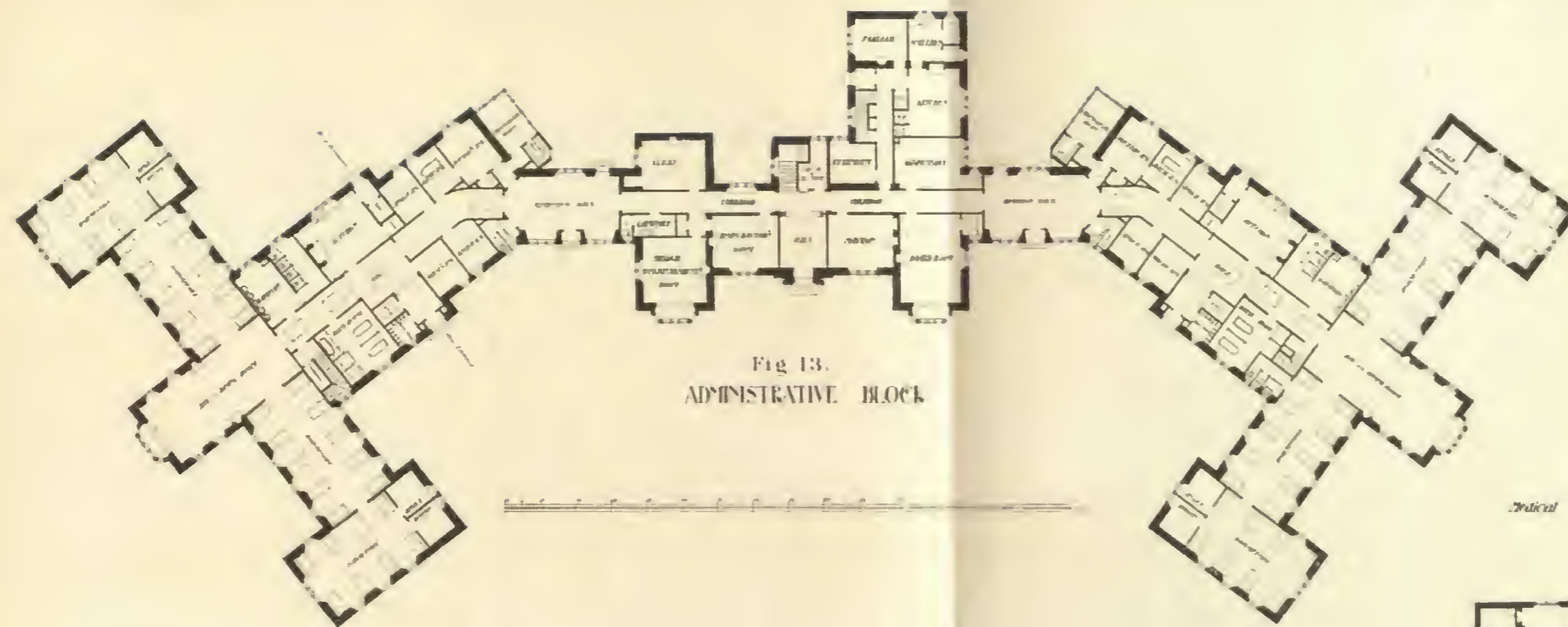


Fig. 13.  
 ADMINISTRATIVE BLOCK

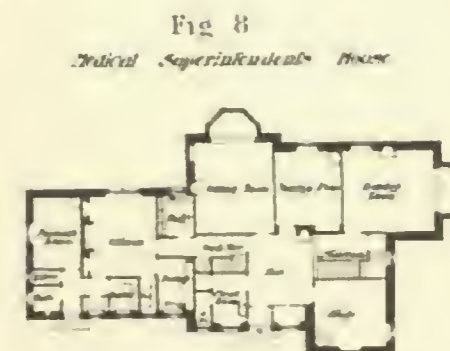


Fig. 8.  
 Medical Superintendent's House



Fig. 10.  
 HOSPITAL BLOCK



Fig. 9.  
 NURSES' HOME.





FIG. 11.—BANGOUR VILLAGE ASYLUM: NURSES' HOME: ELEVATION.

## MALE INDUSTRIAL COLONY.

The homes for the male industrial patients are on the north side of the west section of the site. There are five, accommodating in all nearly 250 patients. Owing to urgency by the authorities these are constructed of wood framing, with corrugated iron on the roofs and on the outer wall faces. The walls are packed with asbestos and all internal surfaces plastered. Their cost to construct and maintain is, however, not in favour of their being preferred to stone buildings.

## MEDICAL SUPERINTENDENT'S RESIDENCE.

The medical superintendent's residence [fig. 8, *folding plate*] is situated upon the higher ground on the estate (about 600 feet above sea level) near the north boundary, well removed from the asylum, but in telephonic communication with all parts. The site is that once occupied by the historic "Bangour House," several parts of the foundations of which were revealed when excavating for the present house. The accommodation is normal, economically grouped, and the finishings appropriate.

## NURSES' HOME.

The nurses' home is a detached block of H form on plan [fig. 9, *folding plate*, and fig. 11], and is of three floors and attics, subdivided into a series of bedrooms to accommodate eighty-seven nurses, the ground floor being specially arranged for nurses' dining-room, sitting-room, writing-room, matron's rooms, and other general accommodation. About one-fourth of the nurses are on night duty; the remainder during the day. To obviate inconvenience from noise of traffic the day nurses have the first floor appropriated to them, the night nurses having the upper floors. The nurses for whom this home is provided attend only in the "medical" section, all those, together with attendants for the industrial section, having their rooms provided in that section.



FIG. 12.—BANGOUR VILLAGE ASYLUM: ELEVATION OF HOSPITAL BLOCK.

As in all the homes, there is a kitchen provided for preparation of special diets when required. The provision of a separate home wherein nurses can be entirely separated from their trying duties has frequently been advocated, and is welcomed as an important improvement in this asylum equipment.

#### HOSPITAL.

At a distance of about 120 yards from the nurses' home is the hospital for the sick and infirm of both sexes [fig. 10, *folding plate*, and fig. 12]. It consists of a series of wards on a ground and first floor, two being 48 feet by 25 feet, to accommodate twelve beds each, and four being 62 feet by 25 feet, accommodating fourteen beds each. These with a few side rooms yield accommodation for ninety patients, each patient being allowed an area of 100 to 110 superficial feet, as against 60 superficial feet for each patient in the dormitories of the industrial homes.

A specially constructed covered and protected verandah for open-air treatment is provided at one end of each ward.

The accommodation further provides kitchen, scullery and kitchen offices, maids' rooms, &c., matron's rooms, large lecture-room, surgery, &c. A hoist for lifting patients to the first floor is provided near the centre of the building. It is large enough to contain a bed, so as to save, as much as possible, inconvenience to the patient.

#### MORTUARY.

The mortuary is a parallelogram, about 50 feet by 33 feet. The accommodation comprises a mortuary chamber for nine bodies, a post-mortem room with table and other relative fittings, photographic room, pathological and research room, and also a room for funeral services. The mortuary slabs are specially constructed of enamelled fireclay, basined and laid to a gentle slope about four feet from the floor. By a simple contrivance the space underneath them is appropriated as a coffin chamber, access to which is obtained from the outside.

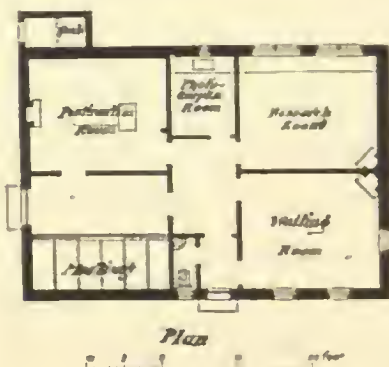


FIG. 14--MORTUARY BLOCK.

#### CLOSED VILLAS.

Of the four closed villas two accommodate forty, and two thirty-two, patients each; the apartments, in number and arrangement, resemble those provided for the industrial homes. The general dimensions are also similar, but a number of single rooms have specially to be provided in both the observation and the acute villas. One "acute" villa is provided each for male and female patients, and in it there is one padded room—the only two in the asylum. This and the single room practically constitute the only difference between the medical and the industrial section of the homes. All the single rooms have double doors. Moreover, the partitions dividing the dormitories of the observation villas are only about four and a half feet high, so as to afford a simultaneous open view for nurses.

#### ADMINISTRATIVE BLOCK.

As already stated the administrative block [fig. 13, *folding plate*, and fig. 15] occupies a situation intended to be central in the medical division of the institution. It comprises a large centre block containing the administrative offices of the medical superintendent, assistant medical officers and matron, clerks' room and Board room, as well as residential

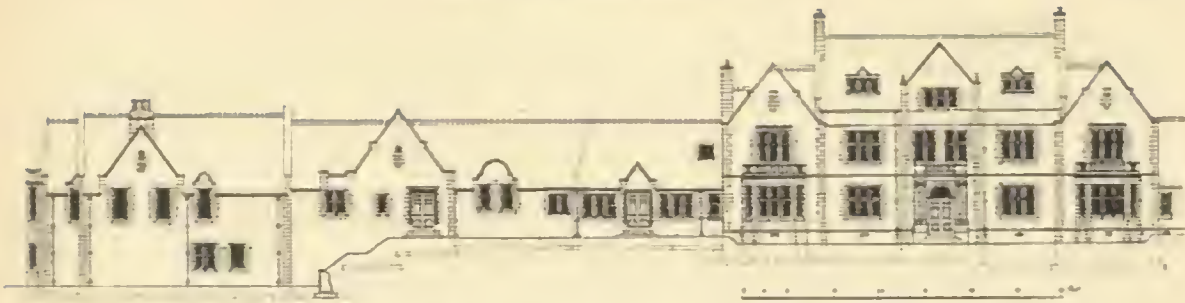


FIG. 15.—RANGOUR VILLAGE ASYLUM: ADMINISTRATIVE BUILDING, LECTURE BLOCK AND WEST WING.

accommodation for the assistant doctors on the upper floor. Connected by a wide corridor at each end are the admission wards for male and female patients, each accommodating forty patients. For preliminary observation and record the doctor's room with photographic studio, bathroom, and one or two single rooms are grouped round a vestibule at the visitors' entrance on each side. They are partitioned off from the occupied wards, so that nothing tending to depress may be observed by anyone coming for first treatment. Only as the nature of the particular case reveals itself is it decided in what section of the institution the patient shall be placed.

Each admission ward has its own kitchen for sick-room cooking.

#### RECREATION HALL.

The recreation hall is situated, as it should be, nearly midway between the "medical" and the "industrial" section of the asylum. It provides a large hall, 93 feet by 54 feet, with boot and cloak room at the male and female patients' entrance at the south end of the building. At the opposite end is a large and fully equipped stage, complete with retiring and dressing rooms. Doors of egress of liberal width are provided near the four corners of the building, and two additional at the patients' entrances—making six in all. By means of lattice steel girders to support the roof, pillars are dispensed with, thereby throwing open the entire floor area for social functions. The hall will accommodate 700 persons, with 7 superficial feet to each. For theatre performances the orchestra is provided for in a roomy sunk pit in front of the footlights. This pit is, by special construction, covered over at the floor level on dance occasions.

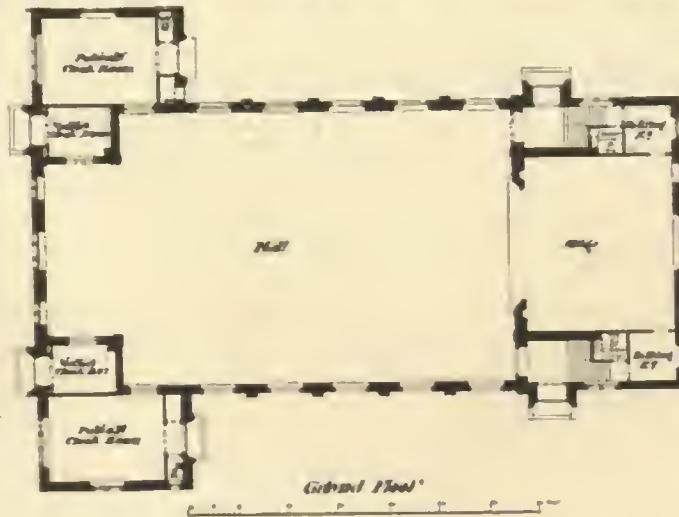


FIG. 16.—RANGOUR VILLAGE ASYLUM: PLAN OF RECREATION HALL.

#### GENERAL OBSERVATIONS.

The village may be said to be self-contained, having, as noted, its own specially constructed water supply and reservoir, a complete and independent system of drainage in duplicate, the surface water being delivered into a natural pond, and the soil water conveyed separately to septic

tanks, whose purified effluent enters the stream at the east end of the estate. Fire hydrants are distributed over the grounds. Two fire sheds for hose and other appliances are placed at the extremes of the estate, and each house is provided with hydrants and fire-extinguishing apparatus outside, as well as inside the separate buildings.

The village, by the industry of the patients who are able, stocks its own larder as far as possible, and provides its own kitchen supplies and dairy produce.

Having regard to the needs of continual supplies of coal and stores a private railway has been constructed for this and passenger traffic, and has been found a great convenience.

I have already stated my belief that asylums on the "segregate" principle are more economical to build than are those on the "pavilion and corridor" principle. For the latter enclosing walls are in most instances required, and these are costly. In addition to roads, mileage of tunnels, heating pipes, and extra boiler power are required, and these are expensive items which are much modified by adopting the village system.

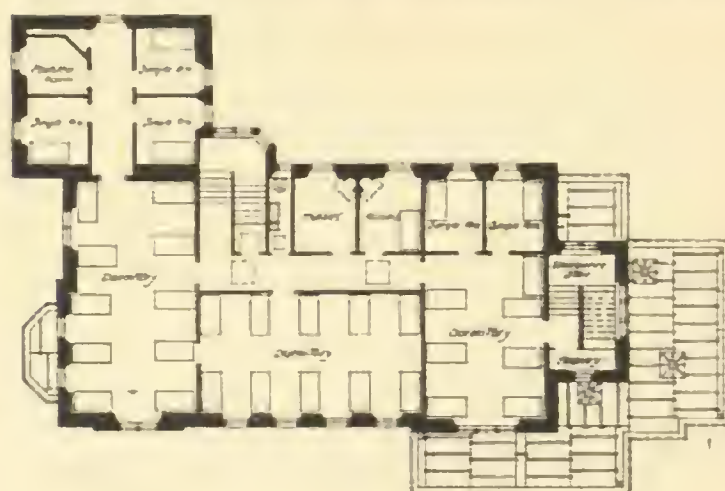


FIG. 17. ACUTE BLOCK: PLAN OF FIRST FLOOR. See Ground Floor Plan, p. 312.

The after maintenance also is much more simple and economical, all parts being more easily accessible for repairs. The supervision is easier, as there are no ramifications of long corridors, but all patients can be quickly accounted for among the small groups composing each home.

For the patients the characteristic home-like appearance of the house must be less depressing than are the more or less formidable large pavilion buildings. Risks of fire are minimised, and if occurring can be more easily dealt with, and its area limited. There are a few possible disadvantages which cannot be overlooked in an "open door" arrangement of asylum: one,

the risk of patients escaping; the other, the possible extra staff of nurses required for supervision. Both of these points, however, may be disposed of together; because, with its risks, the freedom allowed is part of the cure; so also is the slight possible addition (about, say, 6 per cent.) to the staff over the usual proportion in a pavilion-constructed institution.

The experiences, as related in the annual reports, from American asylums may be summed up in a passage in which it is stated: "the advantages of the cottage system and the non-restraint treatment of the insane show the cost of plant to be one third of the one building, the pavilion type of plan, and the expenses of maintaining the institution are materially less. The policy of allowing patients the largest amount of liberty consistent with their respective conditions has been continued, and no accident or incident of an unfortunate character has occurred."

With regard to the nurses and attendants, the former are the larger proportion. In the acute villas, there are eight patients to one nurse; in the hospital, eight; and in the indus-

trial homes, twelve. For the farm workers, the male industrial, and male acute patients, there are male attendants, a few of whom have sleeping rooms in the houses, while others live in cottages just outside the estate.

All the permanent buildings on the estate are constructed of freestone, from various quarries in Scotland. Roofs are mostly slated, a few being covered with red tiles, with the aim of giving as much variety as possible. The buildings are not laid down with any regularity, and, both in design and material, variety is imparted to them.

In stating the cost of asylum buildings there are so many factors to be allowed for that to make comparison from general figures is misleading. Some sites possess water, either from gravitation or from artesian wells, as at Crichton, Dumfries, and Kingseat; others have a stone quarry, as at Kingseat, Aberdeen. Again, there are those where the contour of the ground necessitates considerable underbuilding to "level up" the buildings, such as at Bangour; and all these matters, with many more, have first to be discounted.

The following is approximately the cost of a few recently erected asylums in Scotland:—

District	Asylum	Patients	Rate per bed	When erected
Lanark	Hartwood	950	£247	1895
Glasgow	Gartlock	613	407	1896
Govan	Hawkhead	510	356	1895
Aberdeen	Kingseat	482	255	1905

These show a rate per patient of from £247 to £407 for asylums of the pavilion type, as against one at Kingseat, Aberdeen (one of the village type), at £255.

Though the works are not entirely finished at Bangour, they are all but finished, and the accounts are lodged. From these a very close approximate total is brought out at £237,000 for the 750 patients at present in the Institution; so that for buildings, roads, drains, septic tanks (a special work), water, fencing and planting, machinery and electric lighting, fees (also four clerks of works' wages), &c., &c., comprised in the above total, the rate works out at £316 per bed. But as the administrative buildings are provided for the intended full number of 1,000 patients (the extra homes for whom will add £30,000), the rate for the 1,000 patients will be reduced in proportion, and will stand at £267 per bed. This is £33 per bed less than was anticipated and allowed by the District Lunacy Board, or a total saving on buildings, &c., of £33,000. This does not include reservoir, railway, furniture, and site, which have not been dealt with by the architect. The furniture, it may be noted, has cost about £14 per patient.

Did your patience and time permit, there are many interesting illustrations not shown upon which a word could be said. A few points in them are common to all asylums, while many, in addition to those already referred to, are special to Bangour. For the number accommodated, and having regard to the area covered, Bangour has so far been found an easily worked institution, and as a site, on an open southern slope, is healthful. It is also found convenient for intercommunication with the city.

If the number of certified insane is increasing, as statistics declare it is, it becomes incumbent upon all interested to assist the means being employed for improvement of the conditions of the patient. In the arrangement of an asylum many problems arise, and these call for the exercise of much patience, thought, and skill towards their solution. The requirements of each district vary; so the buildings and grouping of them require to be specially adapted. The classification of patients is increasing the number of subdivisions, which will eventually claim extra consideration from the medical superintendent and the architect. Each new asylum is an independent study; therefore the architect's first and chief duty is, as Mr. Hine advised, to consult the medical superintendent of the institution and find out the

special requirements, identify himself in sympathy with these, then apply himself to the details of the work according as his skill and experience dictate.

In dealing with the needs of Bangour I own my deepest obligations to the Medical Superintendent (Dr. John Keay), whose great experience, skill, and advice, at all times most generously given, have greatly conduced to the success which, it is allowed, the institution expresses.

## DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

MR. GEORGE T. HINE [*F.*] said he had great pleasure in proposing a vote of thanks to Mr. Blanc for his very interesting Paper. He did so more particularly because he, unfortunately, was called in at one time with the object of marring the beauty of Mr. Blanc's design. Four or five years ago, when the great wave of economy first set in in the country among public bodies, it became bruted abroad in Edinburgh that Mr. Blanc was proposing to spend money on the wreckage of population which might be expended with better advantage on the useful and working classes. He was consulted as to how Mr. Blanc's design could—he could put it in no other word—be “marred.” He would not tell them what occurred, but the result of the investigation was that Mr. Blanc was restricted to an expenditure of £300 a bed; and he (Mr. Hine) was very pleased to be able to congratulate him on having not only kept down to that expenditure, but very much below it, and at the same time, looking at his drawings, it would be admitted that the beauty of the designs had not been marred for a building of that class. When they considered that there were in this country alone a total of something over 100,000 lunatics, increasing at the rate of 2,500 to 3,000 a year, all of whom had to be provided for, and that the annual expenditure for housing them amounted at the least to from half to three quarters of a million sterling in buildings alone; and when they further considered that few of these unfortunates had any appreciation of beauty, they would at once agree that it could only be considered a gross extravagance to expend money in decorative buildings or ornamentation which in no way increased either their health or their comfort. Mr. Blanc, in designing this building on the colony system, was, if not quite the pioneer, one of the first in this country to adopt the principle. The villa system of asylums had been tried abroad. The first originating the plan was the Alt-Scherbitz Asylum, of which Mr. Blanc had shown an illustration. Since then some four or five had been erected in Germany. In England we were moving at a less rapid pace. We would not embark on an undertaking of this kind to the large extent that

had been attempted at Bangour without some experience of the working of the villa system, and therefore in some of our asylums we had been trying it to a limited extent by erecting a few detached villas for the better class of patients surrounding a main asylum designed on the old principle. Whether a complete villa asylum, such as Mr. Blanc had designed, was going to be a success remained to be proved. In a climate like ours, sometimes with two or three feet of snow on the ground, it might not always be an easy matter to convey a warm dinner from the main kitchen to some of the outlying blocks. He thought that in a few years the promoters of this scheme in Edinburgh might probably think they had gone a little too far. Mr. Blanc, however, was not responsible for that; he had his instructions, and had merely carried them out; and from what he (the speaker) had seen of the site and the drawings and photographs, he had done so very successfully, and he hoped that the whole scheme would be completed as satisfactorily as it had been begun.

MR. WM. WOODWARD [*F.*] said he had great pleasure in seconding the vote of thanks which had been proposed by Mr. Hine, one of their greatest living authorities on the subject before them. Mr. Blanc had evidently studied his subject in the minutest detail, and with the exception that he rather differed from him in not providing urinals and in advocating the use of the closet with the tip-up top, he was sure that they would all agree with Mr. Blanc. He thought that the colony system of asylum as described by Mr. Blanc must be a very admirable one. Only a fortnight ago he had gone over an orphan asylum, and in the medical department there they were practically adopting this system of subdividing the patients; instead of having them in large wards, they were taking them in single rooms; and he was certain, even from the single visit he had paid to that asylum, that there was a great advantage indeed in isolating the blocks from each other.

MR. S. PERKINS PICK [*F.*] said that, having had recently some experience in asylum building, he was pleased to add his quota of thanks to Mr. Blanc. Before offering any criticism, he should

like to suggest that the discussion of a Paper of this sort would be much more easily dealt with if the Institute adopted the practice of the Institution of Civil Engineers, and sent the Paper round to the members who were interested in these subjects for previous consideration. Their discussions would then be of a much more intelligent and interesting nature, and the Papers as published in the JOURNAL would be of considerably greater value. With regard to the village system generally, he understood from Mr. Blanc that he was not responsible for its adoption at Bangour, and personally he (the speaker) could not see where the advantage of the system came in. It was all very well to show views of these cottages or houses, with a very nice growth of trees round the blocks, as illustrated in one of the lantern slides—but when they had got each block containing not less than thirty or forty patients, to say that the people going into those asylums were living in village asylums was a misnomer. Once admitted into a block for forty or fifty patients, they soon realised that they were in an institution. Call it what one liked, as soon as a number of people were congregated in a villa, the same institutional character came into force. With regard to the appearance from the inside, there also no special advantage was gained, because when a view was taken from the windows of one of these villas, one simply saw a great mass of other buildings in the immediate neighbourhood; in fact, a good deal more than was to be seen from the day-room windows in the ordinary pavilion type which Mr. Hine was very largely responsible for perfecting. So far as the general aggregation of buildings was concerned, rather more was to be seen from the windows of one of these villas than from those of the other buildings referred to. As regards the point of the separation of the wards, it had now become quite a usual practice to separate them by dormitories, keeping the day-rooms a considerable distance apart. With those day-rooms facing the south, each one having its own garden area—probably half an acre in each case—well planted, there did not seem to be the necessity of building these separate villas, which appeared to be one of the things some Boards were crying aloud for. Again, when one took into consideration the enormous difficulty in the administration—the number of fires that had to be provided; instead of one heating apparatus twenty heating apparatus; instead of one hot-water service twenty hot-water services; then the collection and distribution of the laundry, the stores, and the feeding arrangements, &c., &c. When all this was taken into account, it seemed to him that instead of going forward one was going backward if the village system was adopted for asylums. He could not see that there was any necessity for this village system if one had a well-planned asylum on lines which had now in the aggregate system become somewhat standardised. The Lunacy Commis-

sioners in Scotland seemed to be a good deal easier in these matters than the Lunacy Commissioners in England; and—if he might go a step further—he believed that the intelligence of the Lunacy Commissioners here was of a higher order than that of the Lunacy Commissioners in Scotland, if the plans shown them that evening were to be taken as an illustration. Particularly did he say this with reference to the arrangement of the sanitary adjuncts in the wards—in his opinion, they were not sufficiently separated from the wards; and also particularly in the lighting and ventilation of some of the day-rooms and dormitories. A dormitory such as that shown on the screen, with eight beds in it, lighted mainly from one side, was not, he thought, quite the best and most sanitary arrangement, and he could not help thinking that if such an arrangement had been presented to the Lunacy Commissioners in England, they would have required such alterations as to get them properly ventilated—that is to say, cross-ventilated in each case. In conclusion the speaker said that he supported very heartily the vote of thanks to Mr. Blanc for his interesting Paper.

MR. MATT. GARBUTT [F.] said that he gathered from Mr. Blanc's opening remarks that one of the chief reasons for the adoption of this village system was to remove the patients into more natural, and one might say more beautiful, surroundings. He was a little surprised to notice that Mr. Blanc did not refer directly, excepting when he mentioned flowers, to the effect of colour in the patients' surroundings upon the state of mind in mental diseases. He had always understood that colour had considerable effect. Having the notion that beauty was one of the leading arguments in favour of the village system he was particularly interested in Mr. Hine's statement that people mentally afflicted had no appreciation of beauty in any form whatever. That came as a great surprise to him. He did not know that that was the case, but probably Mr. Hine had excellent authority for saying so. If it were true, then it would appear that this village system could not possibly have any advantage to the patient that would compensate for its probable additional cost, and certainly for its difficulties of administration. The difficulties of administering a number of scattered houses must obviously be greater than managing an institution within four walls. As to matters of detail one could not help noticing one or two things in the photographs shown. He did not know if there was any special reason for having those untrapped wastes from the lavatories discharging into open troughs. In London one would get into trouble with the sanitary inspector for an arrangement of that kind. The little pigeon-holes in the mortuaries for the bodies did not appear to be very good, although he knew that they existed in a good many London mortuaries. It would seem to be very much better—and he had known it

advocated by mortuary keepers—to have the simple, plain, glazed walls, wooden trestles which could be burnt if anything happened to make them foul, and the walls of the mortuary clear of any sort of projection, so that they could be washed down with acid if necessary; because anything that came into contact with dead bodies must be offensive in the extreme and probably very dangerous. He had much pleasure in supporting the vote of thanks.

THE PRESIDENT, remarking upon the lateness of the hour, said he would merely put the vote of thanks to Mr. Blanc for his very interesting Paper.

The vote was carried by acclamation.

MR. BLANC, in reply, said he hesitated to detain the Meeting at that late hour; but he should not like to return to Scotland without relieving himself of the obligation he felt he was under to them for their patient hearing of his Paper, and for their kind expressions of appreciation. A great deal could be said for and against the village system. He granted that at present it looked a bare representation of blocks of stone. He granted, also, that if there was any appreciation by the patients of what was beautiful, the purpose of putting the beautiful before them, if those buildings could be called beautiful, or at least putting natural pictures before them, was to assist in the cure. The patients were not mere pieces of humanity with no sense of sentiment. They had had, he believed, from 30 to 40 per cent. of cures in the year, which spoke volumes for this "nature" method of treatment. As regards what had been said about the distance to travel, say, to the laundry, it must be remembered that in the pavilion system they would have quite as great distances to travel to the laundry; but at Bangour village the outside traffic was conducted within a very limited space of time, and not the slightest inconvenience had been experienced. With

regard to the objection stated that with snow on the ground it was difficult for the doctors to go from building to building, the idea was that a doctor should treat the village as he would if he were a private doctor living in a village; he would then have to visit from house to house under all conditions of the weather. With regard to fires and the consumption of coal, there again they had the ordinary village arrangement. The aggregate amount of coal consumed in a year was nothing like what was required to maintain a number of huge boilers supplying steam—which probably leaked all the way. He had visited many steam-heated asylums, and he could trace out the course of the steam pipes in the ground by the little ebullitions of steam from traps as he walked over the vast areas occupied by one of the pavilion systems. The steam pipes could not be kept in a sufficiently sound condition. All this was saved in the village system; one man went the round of the villas attending to each set of furnaces summer and winter as required. When the place became clothed with verdure, and the trees had grown and had partly screened the buildings, the whole picture would be changed, and they would have a scene such as that existing, say, at Alt-Scherbitz. With regard to the mortuaries, he may have created a false impression by saying the bodies were laid out in separate enclosures in the mortuary chamber. That chamber occupied a large space, about 18 by 15 feet, and the bodies were laid out on separate basinned slabs, not in the open on timber, as might be seen in some other asylums. Each slab was of glazed fireclay, like ordinary kitchen ware; every provision was made for the removal of any fluid, and the chamber could be hosed in every part, all walls being of glazed brickwork. There was also a constant current of ventilation through it. He thought this chamber was a vast improvement on many ordinary systems.



9 CONDUIT STREET, LONDON, W., 21st March 1908.

## CHRONICLE.

### The Royal Gold Medal 1908.

The following letter, addressed to the Secretaries of the Institute, has been received from Sir Dighton Probyn:—

BUCKINGHAM PALACE; 5th March 1908.

GENTLEMEN,—I have to acknowledge the receipt of your letter of the 4th instant, in which you announce, for the information of the King, that the Royal Institute of British Architects has awarded the Royal Gold Medal for 1908 to Monsieur Honoré Daumet.

I have had the honour to lay your letter before the King, and I am now commanded to signify to you His Majesty's approval of this award.

I am, Gentlemen, yours faithfully,

D. M. PROBYN, General,  
Keeper of His Majesty's Privy Purse.

### The International Drawing Congress.

The Council, recognising the beneficial results likely to accrue to architecture from the teaching of good practical drawing, have granted the sum of fifty guineas in aid of the funds of the International Drawing Congress to be held in London next August under the patronage of the Prince of Wales. The aim of the British Committee of the Congress is to place upon a better footing the teaching of drawing and other art work in the primary, secondary, and public schools, and to show the extreme importance of producing better craftsmen, especially in such industries as depend upon art for their success. It is part of the plan of organisation that the principal cities and boroughs of the country should hold preliminary meetings and exhibitions at an early date, the intention being to secure effective representation of the educational work of all localities. Such meetings, summoned by the municipal authorities, have already been held successfully at Birmingham, Leicester, and Leeds. Some twenty-five countries will be represented at the Congress. France, in particular, will send a large number of delegates. The German teachers who are to attend will be assisted by a Government grant.

### The Shakespeare Memorial.

*The Times* of the 6th March gave some account of the progress of the movement on behalf of the Shakespeare Memorial, which, it will be recalled, was inaugurated at a great public meeting held at the Mansion House three years ago, and which met with considerable foreign support. The task of giving practical shape to the proposals is in the hands of a committee, with whom have been associated Lord Esher, Sir Edward Poynter, P.R.A. [H.F.], Sir Wm. Richmond, R.A. [H.A.], Sir Aston Webb, R.A. [F.], Mr. Thomas Brock, R.A. [H.A.], Mr. John Belcher, A.R.A. [F.], and Mr. Sidney Colvin. The memorial is to take the form of an architectural monument, including a statue, and it has been decided to obtain the design by public competition, to be restricted to artists among the English-speaking peoples. The selection of the site for the memorial has been a matter of some difficulty. The south bank of the Thames, suggested on account of Shakespeare's connection with Southwark; the Green Park, facing Piccadilly; Lincoln's Inn Fields—each has been considered in turn, and has had to be rejected for various reasons. Two schemes, emanating from Sir Aston Webb, have been especially prominent; and one of these has led to the decision now arrived at. The first was in connection with the contemplated re-arrangements at Hyde Park Corner; but the idea had to be abandoned. Sir Aston's other proposal was to bring Regent's Park into closer relation with central London by prolonging the Broad Walk virtually across the Marylebone Road into Portland Place, through Park Square, in the centre of which the memorial could be erected. This scheme, which found special favour with the Committee, would have given scope, as *The Times* points out, for a notable London improvement. To carry it out in its entirety, however, would have necessitated special legislation, and the Commissioners of Woods advanced objections which seemed for the moment insuperable. At length a modification of the scheme, suggested by the Commissioners of Woods and the Crown Estate Paving Commissioners after consultation with Sir Aston Webb, has been accepted. The idea of the fine viaduct up Portland Place has been preserved, and a site allocated for the memorial in a semicircular section of the garden of Park Crescent on its south side, with a diameter of 126 feet facing Portland Place. The scheme involves the removal of the statue of the Duke of Kent, and the King has graciously assented to its transference to an adjoining spot. The question of the site being disposed of, the competition for the design, between architects and sculptors working in collaboration, is to be at once proceeded with. When the winning design has been selected, about a year hence, a world-wide appeal is to be organised for not less than £200,000, half to go to the monument, and the remainder to be administered by an

International Committee for the furtherance of Shakespearean interests. A monument of the kind contemplated for the memorial must necessarily take some years in execution, and it is proposed to make its completion the crowning event of the tercentenary of Shakespeare's death in 1916.

#### Eighth International Congress of Architects, 1908.

The following letter has been addressed from the Institute to members of the architectural profession throughout the United Kingdom and British Colonies and Dependencies:—

10th March 1908.

DEAR SIR,—By direction of the Comité Permanent, I have the pleasure to send you the provisional programme of the arrangements for the forthcoming Congress of Architects, which will be held at Vienna from the 18th to 24th May next.

It is hoped that for the honour of the architectural profession in this country the list of British members may be as large as possible. On the occasion of the Congress held in London in 1906, the response made to the British invitation by our foreign colleagues was of a very generous character. The value of these Congresses in advancing the art of architecture, and in effectively dealing with the material interests of architects in all countries, is well established, and the importance of strengthening friendly international relations for these objects cannot be too strongly urged upon the members of the profession.

Arrangements are being made for special terms to be granted to members of the Congress by the railway companies and hotel proprietors, particulars of which will be furnished to members as soon as possible. In the meantime it may be convenient to you to know that the probable cost of the return fare from London to Vienna will be about £8 15s. first class, *via* Calais and Bâle. The return tickets will be valid for forty-five days, and may be used for alternative return routes, of which further particulars will be issued.

For those wishing to travel together a personally conducted party will be made up which will leave London on Friday, the 15th May, and arrive in Vienna on Sunday, the 17th.

The subscription to the Congress is fixed at 25 kronen (= £1 1s.), and for ladies at 15 kronen (= 12s. 6d.).

The forms of application which have been issued by the Vienna Committee are somewhat complicated, and the financial arrangements suggested by them may easily be misunderstood. The British Section have therefore decided to advise those who propose to accept the invitation to Vienna to acknowledge the invitation in the following manner:—

- (a) Disregard the yellow form altogether.
- (b) Fill in name and address on the postcard.
- (c) Fill in names and addresses on the *White Application Form*, but leave the "Amount of Subscription" blank, and do not send any money or cheque with the Application Form.
- (d) Send to the Secretary R.I.B.A. names and addresses of those going to the Congress, together with a cheque or postal order payable to him for the amount of the subscriptions.

The British Section will be responsible for forward-

ing the subscriptions to Vienna and making all further arrangements with the Executive of the Congress.

If, later, you should not find it convenient to be present, the amount of your contribution will be returned to you.—Yours faithfully,

IAN MACALISTER, *Secretary*.

#### Transactions of the 1906 Congress.

The *Compte-rendu* of the last Congress, under the title *Transactions of the VIIIth International Congress of Architects, London 1906*, is now ready for issue, and will be in the hands of subscribing members early next week. It consists, with the illustrations, of nearly 600 closely printed pages, and comprises a complete record of the various functions, discussions, and proceedings. The seventy papers contributed on the subjects selected for discussion are printed *in extenso*. These Papers include:—

(I.) "The Execution of Important Government and Municipal Architectural Work by Salaried Officials," by Otto Wagner, Oscar Simon, and Gaston Trélat.

(II.) "Architectural Copyright and Ownership of Drawings," by H. Haetheote Statham, M. Georges Harmand, Gaston Trélat, and D. Pablo Salvat.

(III.) "Steel and Reinforced Concrete Construction," by the Joint Reinforced Concrete Committee, E. P. Goodrich, Professor Cloquet, Gaston Trélat, Henry Adams, A. von Wielemans, Augustin Rey, Peter B. Wight, and Joaquín Bassegoda.

(IV.) "The Education of the Public in Architecture," by John Belcher, A.R.A., T. G. Jackson, R.A., Arthur Hill, Othmar V. Leixner, Banister F. Fletcher, Otto Wagner, F. del Villar y Carmona, Gaston Trélat, Gaston Anciaux, Albert Mayeux, Jean Gilson, and Dr. Muthesius.

(V.) "A Statutory Qualification for Architects," by John S. Archibald, Louis Bourcier, Gaston Trélat, Otto Wagner, Robert Walker, A. North, and Virgil Nagy.

(VI.) "The Architect Craftsman: how far should the Architect receive the Theoretical and Practical Training of a Craftsman?" by Reginald Blomfield, A.R.A., W. R. Lethaby, Fr. van Gobbelschroy, Otto Wagner, Robert Lenoir, Gaston Trélat, and J. M. Poupinel.

(VII.) "The Planning and Laying-out of Streets and Open Spaces," by Ch. Huls, Eugène Hénard, Dr. J. Stubbén, Polles y Vivó, Gaston Trélat, Raymond Unwin, Augustin Rey.

(VIII.) "To what Extent and in what Sense should the Architect have Control over other Artists or Craftsmen in the Completion of a National or Public Building?" by Sir W. Richmond, R.A., H. P. Stot, Gaston Trélat, L. B. Müller, Otto Wagner, Dr. P. J. H. Cuypers, José Amargós, M. de Noyette.

(IX.) "The Responsibilities of a Government in the Conservation of National Monuments," by Professor Baldwin Brown, A. Renard, Gaston Trélat, J. Artigas y Rauoneda, Prof. W. R. Lethaby, the Tuscan College.

(X.) "The Conduct of Architectural Competitions," by J. Guadet, Gaston Trélat, the Société Bouwkunst en Vriendschap.

Supplementary Papers: "Notice on the Château of Saint-Germain," by Honoré Daumet; "The Tomb of Agamemnon," by Dr. Ceell Smith; "Method for the Reconstruction of Architectural Monuments by Metrophotography," by Marcel le Tourneau.

Non members of the Congress may obtain copies of the *Transactions* at the Institute, price 10s. 6d.

### The Jury System of Judging Competitions.

16th March 1908.

To the Editor JOURNAL R.I.B.A.,—

Sir,—I see by your report of the discussion on Mr. Wills's resolution in favour of the jury system that it was rather taken for granted by several speakers that this system had already been tried in this country and found wanting. A recent important competition was referred to as a case in point.

Might I be allowed to doubt whether the method referred to can rightly be called the jury system—as I am informed it is understood in those countries where it is used—unless it carried with it some system whereby independent votes were awarded by the individual members of the jury on the different points of the designs, these votes added up to eliminate those of least merit, and the process repeated till one design only is left, which design comes to the front automatically by its own merits, without its being necessarily the one which appeals most strongly to the personal tastes of any member of the jury.

As this matter has now to receive the serious attention of the Competitions Committee, it might be of great assistance to their deliberations if the Institute would approach all foreign Architectural Societies and find out how they judge competitions, with special reference to the working of the jury system, where such system prevails.—I am, Sir, faithfully yours,

A. R. JEMMETT [F.].

### The late Mr. D. R. Dale [F.].—District Surveyors.

Mr. Daniel Robert Dale, who died on the 29th ult. at the age of seventy-one, had been a Fellow of the Institute since 1882. He served a pupilage of five years with the late John Blore, of Brompton, and was subsequently engaged preparing drawings for fortifications in the office of the Royal Defence Commission. For ten years from 1866 he was in partnership with the late James Tolley [F.], and afterwards practised by himself until 1894, when he took into partnership his old pupil, Mr. Franklin Gadsdon. This partnership endured till 1904. Mr. Dale was appointed District Surveyor for West Streatlam in 1880, and held the appointment till his retirement last year. He was a very active man in municipal matters, being a member of the Court of Common Council of the City of London, and serving on some of the principal committees of that body.

Mr. ALEXANDER GRAHAM, F.S.A., *Hon. Secretary*, in making the formal announcement of the decease at the Institute last Monday, referred to Mr. Dale's appointment as District Surveyor under the Metropolitan Building Act of 1855, which permitted a practising architect to act also as District Surveyor. Mr. Graham said he thought the occasion would be opportune to mention that last summer a deputation from the Institute waited upon the Building Act Committee of the London County

Council on the subject of the appointment of District Surveyors. This deputation urged very strongly a return to the old lines, when architects of experience, architects acquainted with every form of building construction, and with the new materials which were being introduced from day to day, were District Surveyors. They felt it would be better to revert to the old lines rather than continue with the new, under which architects were simply building surveyors or building inspectors, acting under the strict regulations of the London County Council. He was sorry to say that the County Council had not paid much attention to what the deputation had said. He hoped, however, that the day would come when actual facts might be brought to light to show that the practising architect of experience was, in the interests of the public, the best man they could have for a District Surveyor. He mentioned this matter because he believed it was not generally known among members that the Council had taken this step, and had done their utmost to represent to the County Council the views the Institute held upon the subject. Mr. Dale, their late esteemed Fellow, was one of that band of architects who acted as District Surveyors under the old Act. There were very few left of the old practising-architect District Surveyors, and in a few years they must become extinct.

Mr. Wm. WOODWARD [F.] said he endorsed to the full what Mr. Graham had said with regard to District Surveyors. His (Mr. Woodward's) experience, and the experience of everyone who had been in practice, showed that the right man for a District Surveyor was the man who had followed the profession of an architect, and who helped them in every way, not only in conforming to the Building Act and doing what was necessary in the public interest, but as knowing the whole subject as a result of his own practical experience.

### The late George Allen Mansfield [F.].

The *Sydney Herald* announces the death, at the age of seventy-three, of Mr. G. A. Mansfield, a Fellow of the Institute since 1873. Mr. Mansfield, who was a native of Sydney, was the son of the late Rev. Ralph Mansfield, a name closely identified with the early history of the colony. He was articled to the late John Frederick Hilly, was for some years associated with him in partnership, and afterwards engaged in practice on his own account. Many of the principal banks and commercial buildings in Sydney were erected from his designs. For several years he was architect to the New South Wales Council of Education, having charge of all existing public school buildings, and the designing and carrying out of all new ones. He was the first President of the New South Wales Institute of Architects on its formation in 1871, and filled the office for many subsequent years. Some of the leading architects of Sydney received their training in his office.

#### The late Frank Garfield Johnson [A.].

Intimation has been received of the death of Mr. F. G. Johnson [A.], which occurred at Shanghai on the 9th ult., after a few days' illness. Mr. Wm. H. Atkin Berry [F.], who has kindly communicated the sad news, writes:—

"Mr. Johnson left England for Shanghai just two years ago, together with Mr. G. A. Johnson [A.] (who, though of the same name, is in no way related to the deceased), these two gentlemen having been selected for appointment as assistants to the firm of Messrs. Scott & Carter, architects, of that city. Mr. Walter Scott [A.], head of that firm, writing to me from Shanghai, under date 13th ult., in a letter just received, and referring to Mr. Johnson's death, says:—'I need hardly tell you how much I regret this sad termination to what I am sure would otherwise have been a successful career. Johnson was a thoroughly good fellow, well up in his work, hardworking, conscientious, and popular with all his companions. He was buried on the 11th, and having been a member of the Volunteer Corps his bearers were eight of his comrades, a squad of his company fired three volleys over his grave, and the "Last Post" was sounded at the conclusion of the ceremony.' Mr. Johnson was twenty-seven years of age. He became a Student of the Institute in 1902, passed the Final Examination in 1903, and was elected Associate in 1904. For the three years preceding his departure for Shanghai he served as assistant in the Superintending Architect's Department of the London County Council."

#### Mr. W. J. Locke [H.A.].

Among new members present at the meeting last Monday was the late Secretary of the Institute, Mr. W. J. Locke, who was elected Hon. Associate at the meeting of the 2nd inst. The President, remarking Mr. Locke's presence, observed that the duty which ordinarily devolved upon the Secretary he should like to take upon himself on that occasion, for it was a very great pleasure indeed to him to invite their former esteemed Secretary to come to the table for his formal induction among them as Hon. Associate. Mr. Locke had the heartiest of receptions, and was warmly cheered as he shook hands with the President and turned to take his seat among the members.

#### The Woodcarver at St. Paul's.

We have been informed by Mr. W. J. Gribble that he has made inquiries at the British Museum, and that the letter of "Phillip Wood" [JOURNAL, p. 232] is not to be found there. Mr. Gribble contributed the document to the JOURNAL in good faith, but with inadequate precautions, and we are indebted to Mr. Arthur Bolton and Mr. Ambrose Poynter for calling attention to the doubtful character of the letter.

### ARCHITECTS' BENEVOLENT SOCIETY.

Annual Report adopted at the Annual General Meeting, 12th March 1908.

The Council, in submitting their Fifty-eighth Annual Report, have to record that the number of necessitous cases which sought the assistance of the Society was not so great as that of last year. The unfortunate circumstances of the majority of the applicants have been largely due either to the advance of age or ill health. The rules of the Society forbid publicity with regard to individual cases, but it is a sufficiently established fact in architecture, as in other professions, that it is extremely difficult for a man who has arrived at middle life, and whose practice has fallen off, to find employment in a subordinate position. And some of the saddest cases which come before the Council are due to this cause. There are also cases where the professional man has not been in a position to provide for those whom he has left behind—the cases of the widow and the orphan in poor circumstances. Here again the timely help of the Society has been of the greatest value. The circumstances of each case are investigated by the Council and assistance granted in proportion to the needs of the applicant, and applied in a manner most likely to reinstate him or her in an independent position. Out of seventy-one applications received during the year sixty-five were found deserving of assistance, this number comprising thirty-seven architects and architects' assistants, fifteen widows, and thirteen orphans. In addition to these ten pensioners received their usual payments. The total amount thus distributed in relief was £918. 5s.

With regard to the financial position of the Society the Council regret that the amount received in subscriptions was only £658. 12s. 6d., as against £683. 13s. received last year. At the end of the year many subscriptions were in arrear, and six members had withdrawn their subscriptions. Although the number of subscribers has increased within recent years, it is still small as compared with the number of practising architects in the United Kingdom, being not more than ten per cent. of the whole. The Society has always largely benefited by the individual effort of its members, and it is felt that with more systematic help in this direction the finances would be gradually established on a firm basis.

The total amount received in donations was £169, as against £344. 9s. 2d. received last year, including a donation of £45 received from the executors of the late James Toleman. Further sums were also received from Mr. John T. Christopher (£15. 5s.), Mr. John Borrowman (£10. 10s.), Mr. Alfred Saxon Snell (£10), Mr. Graham C. Awdry (£10), Anonymous (per the President) (£10), Miss Mabel E. Taylor (£5. 5s.), Mr. E. W. Alfrey (£5. 5s.), Mr. R. F. Vallance (£5. 5s.), and various

sums in smaller amounts. In consequence of these donations and the balance carried over from last year the Council were enabled to increase the investments by the purchase of £258. 7s. 9d. New Zealand Three per Cent. Inscribed Stock at a cost of £220.

It is with great regret that the Council have to record the death of Mr. Arthur Maryon Watson, Mr. T. Barnes Williams, Mr. George Saunders, and Mr. John Smith.

The following gentlemen, being the five senior members, retire by rotation from the Council: Mr. H. L. Florence, Mr. G. B. Bulmer, Mr. F. W. Hunt, Mr. W. L. Spiers, and Mr. Arthur Ashbridge. To fill the vacancies caused by these retirements the Council have the pleasure to nominate Mr. Wm. Dunn, Mr. Henry T. Hare, Mr. Benjamin Ingelow, Mr. Henry Lovegrove, Mr. Rowland Plumbo, and Mr. William Woodward. The Council have also the pleasure to nominate Mr. William Glover and Mr. Edwin T. Hall as Vice-Presidents.

The thanks of the Society are due to the Royal Institute of British Architects for office accommodation and for the use of rooms in which to hold their meetings.

## REVIEWS.

### CHURCH FURNITURE.

*English Church Furniture.* By J. Charles Cox, LL.D., F.S.A., and Alfred Harvey, M.B. Price 7s. 6d. [Methuen, 1907.]

An important work on English ecclesiology has appeared under the unattractive and somewhat misleading title of "English Church Furniture." Such a book has been very long wanted. In fact nothing of the kind, to my knowledge, has been published since Parker's *Glossary* appeared and the old Cambridge Camden Society published its excellent little *Handbook to English Ecclesiology*, my copy of which is dated 1847. Handbooks on Gothic architecture have appeared in shoals, but never a one on ecclesiology. Yet, at any rate of the outer world, for one who is interested in the architecture of a church there are ten who take an interest in fonts, screens, pulpits, bench-ends, and the like. The scope of the new book is very comprehensive, as may be seen from the table of contents. It includes the altar and its accessories, the altar-rails, reredos, sedilia, ambry, piscina, and Easter sepulchre; church plate; screens and rood-lofts; pulpits, hour-glasses, and lecterns; stalls, misericords, bench-ends, poppy-heads, and pews; chests, alms-boxes, and collecting-boxes; fonts and font-covers; the church lights and church embroidery—in fact, practically everything in an English church except the mural paintings, stained glass, incised slabs, encaustic tiles, and

ironwork. The method pursued by the authors is to give an historic account of each item—e.g. fonts—and then to provide a complete list of all the important fonts in the country, arranged in counties; in addition a special description is given of the more important examples. The same course is taken with the altar, the screen, the pulpit, and the rest. Such lists, in the nature of things, cannot be made exhaustively complete and accurate; but it will surprise most to find what an extraordinarily large number of examples has been catalogued. To bring such lists together must have meant years of preliminary labour. The book contains thirty-two plates as well as about ninety illustrations in the text, and, being well and clearly printed, is remarkably cheap at the price. One of the authors, Dr. J. C. Cox, has had exceptional opportunities of studying church accessories, first in the compilation of his monumental work in four volumes on the *Churches of Derbyshire*, and more recently in surveys of many districts undertaken for the *Victoria History of the English Counties*, now in course of publication. The book is clearly and brightly written; there is little of dry-as-dust antiquarianism about it. There is no architect, however extensive his practice and his experience, but will find a wealth of novelty and interest in the book, and frequently a flood of light thrown on what may have seemed unintelligible or unimportant, or which perhaps has been passed over unnoticed. The book being fully indexed, the very numerous churches treated of are easy of reference.

FRANCIS BOND [H.A.].

### SHOP-FRONTS.

*English Shop-fronts Old and New: A Series of Examples by Leading Architects.* By Horace Dan and E. C. Morgan Willmott. Ls. 8vo. Lond. 1907. Price 15s. net. [B. T. Batsford, 94 High Holborn.]

So accustomed have the frequenters of towns and cities become to the monotony of street upon street of commonplace shop-fronts that to come across one with any claims to distinction was till recent years an experience which the observant passer-by was not slow to record. What a remarkable state of affairs it is that a well-designed shop-front should be such a precious relic in our older cities and such a rarity in our modern ones! The fact is that the old ones, which almost certainly had some interest or some characteristic feature, have nearly all been pulled down, altered or "improved" beyond recognition, and the new ones have sprung up in their thousands, regardless of everything but the one consideration of providing the largest possible area of plate-glass. And this necessity, real or imaginary, of making the glass area as great as the ingenuity of man can devise has tended to the glorification of plate-glass, but at the same time it has ruined the architecture of our streets, and will yet continue to do so, more or

less; for when a conviction, however erroneous, has once received general acceptance it takes a long time to remove it. But the appearance of this book is a hopeful sign, and it augurs well for the future that there should be sufficiently wide interest in the subject to call for it at all.

Without the skilled designer the shop-front of to-day is almost certain to be unarchitectural, because contrary to architectural principles and to sound construction. The construction may be sufficiently strong, but it is seldom apparent; and an appearance of weakness prevails where strength and solidity should be most forcibly expressed. And the unfortunate thing is that the skilled designer is so rarely approached and given the opportunity to avail himself of the materials and methods of construction which the present day affords, and to dispose them in forms suggested by a study of the old models which yet survive. But this book shows that now and again the opportunity has occurred, and in many instances has been made the most of. Here in a small compass a series of fifty-two collotyped views have been brought together from old and new examples scattered about London and many other cities. It is very interesting to turn them over and note their points one by one; but in spite of variety of types and display of inventiveness noticeable in the modern ones it is to the old examples that we turn back for the more reticent, more reposeful, and more thoroughly satisfying designs. It may be thought that their number could with advantage have been greatly increased: there are certainly many more hidden away in various parts of the country; but the types illustrated here have been so well chosen that it is very doubtful whether many could be found that differ sufficiently, except in detail, to warrant their inclusion. One misses the old signs which expressed at a glance the nature of the trade carried on within, but their absence opens up the possibility of striking some note in the design of the shop-front itself. Plate xv. is an exceedingly good example of this, and plate xxxvi. is another; but it is rarely attempted, for it is not every trade that suggests a suitable *motif*, and good lettering is the next best thing, seen to advantage on the angle shop (plate xxxi.), and on another shop belonging to the same firm in Kingsway, which does not, however, figure in the book. The letterpress is concise and well interspersed with further illustrations, which are of value in themselves, and help to explain the plates; and in one or two instances working drawings of subjects illustrated are reproduced, as in the case of the well-known recessed front in Cheapside (plate xvii.).

It is likely that the book will draw attention to the consideration of shop-fronts, not only from the æsthetic, but also from the commercial point of view; and more important still that it will materially help to raise the standard of design, and contribute to the improvement which has tentatively

manifested itself in recent years. The authors are quite justified in their opening statement in the preface to the effect that "no apology is needed for the publication of a volume upon shop-fronts, a subject full of architectural interest," and our thanks are due to them and to the publisher for the delightful one that they have produced.

ARTHUR STRATTON [A.].

## COMPETITIONS.

### Tiverton Schools.

Mr. E. S. Perkin, writing on behalf of the promoters of this competition under date 18th March, says:—

"In accordance with representations made by several competitors, architects who desire additional information to that already supplied in the Conditions issued are requested to send their questions not later than Tuesday next, 24th March. Supplementary information will then be sent to competitors by 31st March, instead of the 18th April, as stated previously, thus giving them the benefit of the intervening time. Several important questions have been asked, the answers to which architects should know before commencing work."

## MINUTES. X.

At the Tenth General Meeting (Ordinary) of the Session 1907-08, held Monday, 16th March 1908, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair; 27 Fellows (including ten members of the Council), 28 Associates, 1 Hon. Associate, and visitors—the Minutes of the General Meetings (Special and Business) held Monday, 2nd March 1908 [p. 308], were taken as read and signed as correct.

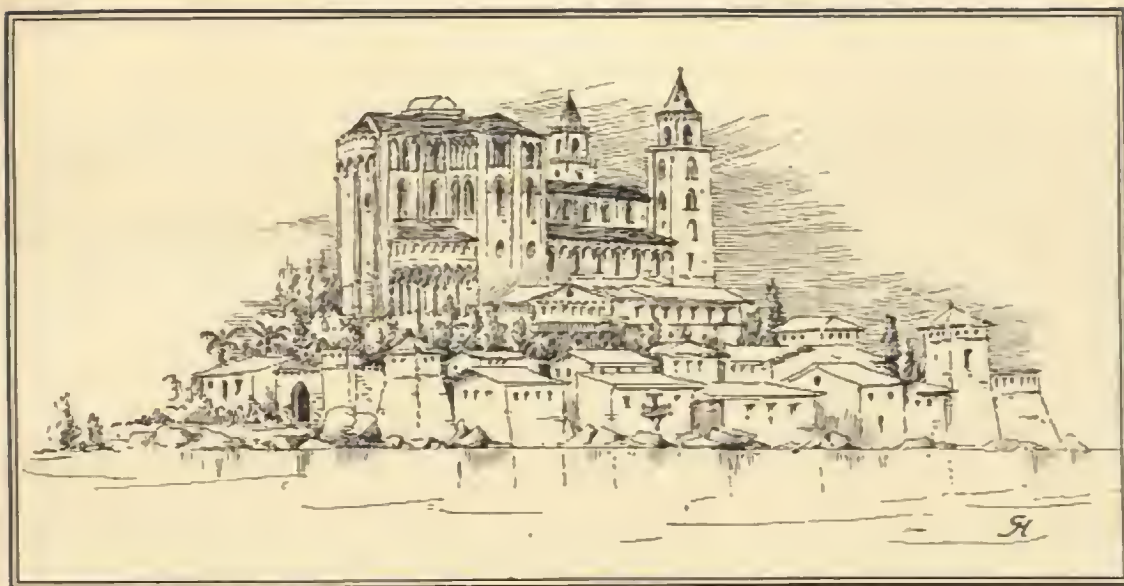
The Hon. Secretary announced the decease of George Allen Mansfield (Sydney, N.S.W.), *Fellow*, elected 1873; Daniel Robert Dale, *Fellow*, elected 1882; Frank Garfield Johnson, *Associate*, elected 1904.

The following members attending for the first time since their election were formally admitted by the Chairman—viz. William John Locke (formerly *Secretary R.I.B.A.*), *Hon. Associate*; Gilbert Mackenzie Trench, Reginald Guy Kirkby, Joseph Henry Taylor, Roland Welch, and Walter Adolphus Ritchie-Fallon, *Associates*.

A Paper on BANGOR VILLAGE ASYLUM, EDINBURGH, having been read by Mr. Hippolyte J. Blanc, B.S.A. [F.], and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to Mr. Blanc by acclamation.

The proceedings closed, and the Meeting separated at 10.20 p.m.

The following student having satisfactorily completed the three years' course in architecture at University College, London, has been exempted by the Board of Examiners from sitting for the Intermediate Examination, and has been registered *Student R.I.B.A.*:—FRANK ASHURNEN RICHARDS [Probationer 1906], of 19 Wetherby Gardens, S.W. This exemption was granted in January last year.



## THE CATHEDRAL CHURCH OF CEFALÙ, SICILY.

By GEORGE HUBBARD, F.S.A. [F.]

Read before the Royal Institute of British Architects, Monday, 30th March 1908.

IN reading a Paper this evening on the Cathedral of Cefalù I propose to quote largely from a Paper I communicated to the Society of Antiquaries, and which subsequently appeared in *Archæologia* in 1898. Owing to the difficulty of obtaining photographs of this cathedral, I regret that I am able to give so few illustrations; but, as I shall treat the subject largely from an historical point of view, their omission, perhaps, may not be so noticeable.

Ever since 1838, when Mr. Gally Knight published his *Normans in Sicily*, with a folio volume of drawings by Mr. George Moore who accompanied him on his Sicilian tour, the cathedral church of Cefalù has been known to antiquaries, and architectural students, as a most important example of the Early Sicilian Norman pointed style. In 1884 I had the good fortune to be quarantined for nine months in Sicily, owing to an outbreak of cholera; and of these nine months I spent more than one of them at Cefalù, at that time some twenty miles distant from the nearest railway station. At Cefalù I spent my time making drawings and taking measurements of the cathedral. In 1896 I again visited the island for the purpose of correcting and completing the work I had commenced twelve years before, and now, after the lapse of yet another twelve years, I am pleased to lay before you such evidence as I have in support of the theory, that pointed Gothic work was derived from the pointed Norman work of Sicily, and particularly from Cefalù. Also to assign an exact date to those portions of the cathedral of which the date has hitherto been only vaguely conjectured.

The conquest of Sicily from the Saracens by the Normans, begun in 1062 with the capture of Messina, was not completed till 1090. The commencement, therefore, dates four years earlier, and closes four-and-twenty years later, than the conquest of England by William the Bastard. In Sicily the conquerors were confronted by some of the noblest architectural monuments of many successive civilisations. Sikel and Phœnician, Greek and Carthaginian, Roman and Byzantine, Arab and Saracen, had all left behind them a series of architectural examples for grandeur and variety unequalled, within the same area, in any other part of

the world. The circumstances of the conquest, however, determined that the principal modification which the Norman style underwent in Sicily should be derived from the Saracen. The conquerors adopted the pointed arch of the misbeliever, and their adoption of it, I venture to think, revolutionised the architecture of Christendom. Their adoption of it in Sicily, indeed, was hardly a matter of deliberate choice. Dwelling in Saracen cities and towns and villages, surrounded on all hands by the pointed arch, in nearly all the domestic and religious buildings they had wrested from the Saracenic owners, the Normans in Sicily, long before they had begun to build houses and churches for themselves, had become thoroughly familiar with this form of construction; and when they did begin to build for themselves, they naturally, and unconsciously, almost inevitably, adopted the pointed arch with which they were surrounded in their daily life.

It is more than probable that the Norman conquerors employed the Saracenic workmen to execute their buildings, and these Saracenic workmen would doubtless adopt the pointed arch to which they were accustomed. I hope, however, to adduce some evidence to show that, though perhaps all the early buildings under the Norman conquerors were executed by the Saracens, there was one great and notable exception in the Cathedral Church of Cefalù.

The earliest work under the Norman rulers is to be found in the Church of San Giovanni dei Leprosi at Palermo. This was built by Count Roger, the youngest of the Titan brood of the needy Norman knight Tancred de Hauteville. Count Roger, who was throughout the leading spirit of the Norman Conquest, died in 1101, the uncrowned King of Sicily.

Before dealing particularly with Cefalù, I propose quickly to review other work under the Norman rulers, in order to show the contrast of the absence of Norman influences in any of them, as compared with the distinctly Norman influence at Cefalù.

Mr. Seth-Smith, in his admirable lecture, given at the Architectural Association, in December 1906, on the architecture of Sicily, says that "the first Norman church, S. Giovanni dei Leprosi, was built outside the wall of Palermo, as early as 1071, by Robert Guiscard during his long siege. It is a Basilican plan, with arcades of round arches over octagon piers, fully developed transept, not projecting beyond the side aisle walls, but rising as high as the nave; the central crossing is covered by a dome" [fig. 1]. From its Basilican plan and domed central crossing it is difficult, not to say impossible, to trace here any Norman influence.

La Martorana, at Palermo, was built about 1129 by George of Antioch, the High Admiral of King Roger. From a plan prepared by Mr. Seth-Smith it will be seen that it is designed as a true Greek cross within a square [fig. 2]. There is no suggestion of the Latin cross, nor is there any distinctive Norman feature in the building. The interior shows the Saracenic pointed arch.

San Cataldo, Palermo [fig. 3], of approximately the same date—viz. 1130—is likewise Greek in plan, with three domes over the nave. Here, again, there is no trace of a Norman origin.

San Giovanni degli Eremiti has a curious T-shaped plan [fig. 4] showing a Byzantine origin: this church was completed in 1132. The late Mr. F. W. Bedford, in a letter to Mr. Phienè Spiers, considered that the present church was an addition to one of the Moorish mosques, of which, Mr. Spiers says, many existed in Palermo at the time of the Moorish dynasty. The exterior view does in no way suggest a Norman origin, nor is there any distinctive Norman work in the interior. The cloisters, however, which are of a somewhat later date, undoubtedly show a Norman influence.

La Capella Palatina, built 1132, is designed on the plan of a Roman basilica [fig. 5]. So is Monreale [fig. 6], which was begun in 1174.

All these churches are in or around Palermo; and Fergusson says, when speaking of them, that "the Gothic feeling in Palermo is almost wholly wanting."

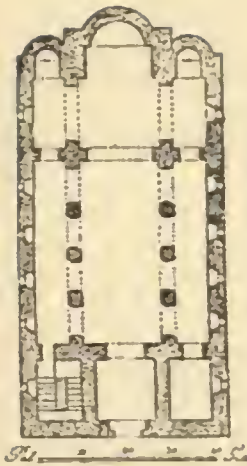


FIG. 1.—S. GIOVANNI DEI  
LEBBIOSI, PALERMO.

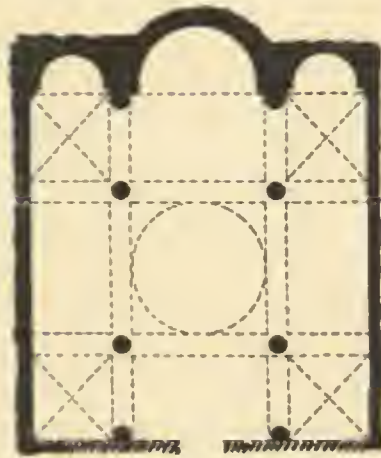


FIG. 2.—LA MARTORANA, PALERMO (c. 1129).

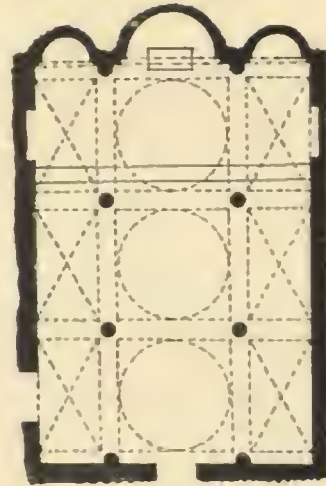


FIG. 3.—S. CATALDO, PALERMO (c. 1130).

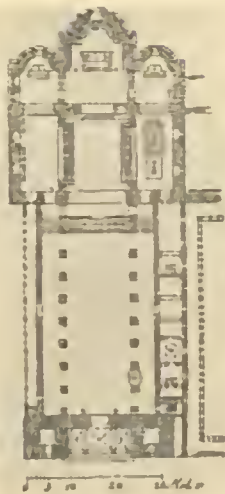


FIG. 4.—CATHEDRAL, MONREALE.

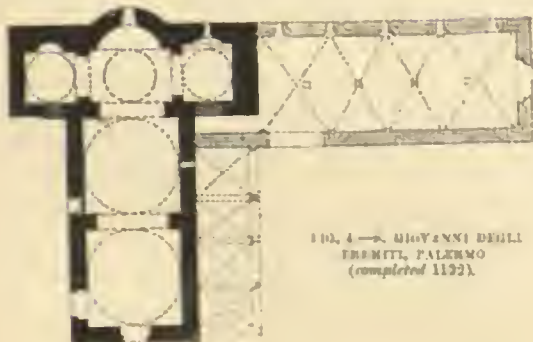


FIG. 5.—S. GIOVANNI DEGLI  
EREMITI, PALERMO  
(completed 1122).

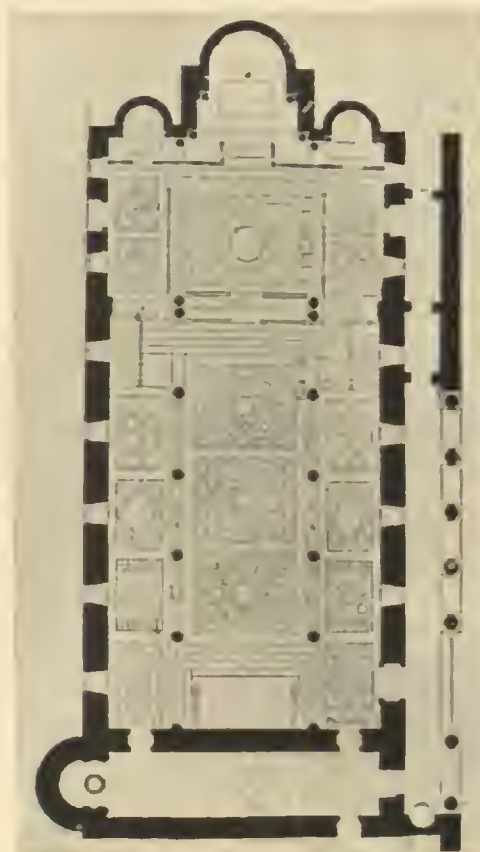


FIG. 6.—LA CAPPELLA PALATINA, PALERMO.

All of these buildings were the work of Roger II., the first Norman crowned King of Sicily, except the earliest, San Giovanni dei Leprosi, which was built by his father, Count Roger.

It will be noted that none of these churches are planned on the Latin cross. The whole conception in the designs, though built under Norman rulers, is quite alien to Norman influence. The cathedral of Messina, according to Gally Knight, was begun in 1098. Little, however, remains of the original structure, which externally shows no appearance of transepts.

The cathedral church of Cefalù is one well deserving of more careful study than it has yet received. Cefalù lies on the north coast of Sicily, just fifty miles from Palermo on the west, and considerably more than that distance from Messina on the east. It is a mediæval town, technically I suppose a city, built on the ledge of a rock, at the base of the cliff on which stood the ancient Cephalædium, itself, according to the late Professor Freeman, the successor of a prehistoric Sikel settlement.

The buildings that formed part of the ancient city, composed of huge irregular blocks wedged immovably together, are still visible on the heights above the town, here and there pierced by openings made in later days by masons who trimmed and squared the stones through which the openings were made, and here and there carved a classic moulding above them for a label. Here and there, too, are additions, wrought by Roman hands, with small stones and a lavish amount of mortar, in strange contrast to the cyclopean work of their predecessors. The cathedral stands on rising ground at the end of the town, immediately under the cliff. At the eastern end the earth has been allowed to accumulate against the walls to a height of from sixteen to twenty feet, and the fig trees and cactuses that flourish on the encroaching soil render it still more difficult to obtain an impression of its full proportions. It was built, as I have said, by the first Norman King of Sicily, who was crowned at Palermo on Christmas Day, 1130.

The legend associated with the building of the cathedral is, that a sister of King Roger had married a Calabrian noble, who insulted and ill-treated her, and that Roger, in the year following her marriage, led an armed force into his dominions on the mainland to punish his offending vassal and brother-in-law. He, however, miscalculated the power of the Calabrian nobles, and suffered a disastrous defeat at Nocera. Returning to Sicily for reinforcements, he was overtaken by a storm so threatening that he vowed if God should permit him to land alive he would build a church wherever he first set foot on shore. The ship at last found refuge in the wretched harbour of Cefalù, and in fulfilment of his vow the cathedral was begun in 1132. Such is the legend; but the charter of the foundation, still preserved in the episcopal archives, and dated 1145, makes no reference to the story. What seems certain is that Cefalù was made an episcopal see in 1130, and the cathedral church was begun in 1132.

I find that Professor Willis, the distinguished authority on Gothic architecture, gives the name of the founder as Roger I., which is obviously in error for Roger II., and he attributes the date of the cathedral to 1146. Professor Willis is probably quoting from *Letters of an Architect from France, Italy, and Greece*, by Joseph Woods, who published his work in 1828. Mr. Woods does not support his statement as to the date by any evidence. All other authorities are against him, including Dehio and von Bezold, and that careful recorder, Gally Knight, who says, "The peculiar interest which is attached to the cathedral of Cefalù arises from the certainty of the date," which he puts at 1132.

King Roger laid out his cathedral on no mean scale. The general plan is the Latin cross, with three apses at the east end. By internal measurements the total length is 217 feet 2 inches, and the width across the nave and aisles 89 feet 7 inches, while the width across the transepts is 124 feet 6 inches. The nave is just twice the width of the aisle.

By a comparison of the Latin-cross plan of Cefalù with the domed buildings and Basilican

plan of S. Giovanni dei Leprosi, or the true Greek cross of La Martorana and San Cataldo, or the Byzantine plan of San Giovanni degli Eremiti, the impression that Cefalù is the only distinctive Gothic plan becomes apparent.

From the purely Gothic peculiarities which single out Cefalù from other contemporaneous work in Sicily, in my opinion, it may be inferred that Cefalù was built by Norman and not by Saracenic masons. The bearing of this point, in the conclusions I adduce, is to withdraw Cefalù from the category of Saracenic Norman work, and to suggest that it would be more correctly included amongst Gothic buildings.

The nave, as is usual in Norman work of the period, has an open timber roof: but the choir and south transept are vaulted and groined. The groining of the choir is here not simply an intersection of the vaulting planes, as is characteristic of Roman vaulting or early Norman vaulting, and indeed Saracenic; for the intersections in the pointed groined work are marked by projecting ribs which are peculiarly characteristic of Gothic work. Mr. John Bilson, in his admirable lecture delivered in this room just nine years ago,\* dealt very exhaustively with the question of early vaulting in England and in France. In this lecture he attempted to show, and I think clearly demonstrated, that ribbed vaulting was adopted in England before it appeared in France. In the earliest examples in both countries the vaulting arches were as nearly round as the circumstances would permit in any vaulting over oblong areas.

The earliest example of a pointed arch being introduced in vaulting, Mr. Bilson considers, is in the vaulting over the nave of Durham Cathedral, which was probably carried out between 1128 and 1133, but here the semicircular curved ribs are employed for the diagonal arches, and the transverse ribs become pointed almost as a matter of course. Abbot Suger's vaults beneath the western towers of St. Denis appear to be true pointed ribbed vaults, and these were erected between 1197 and 1140. The first example of true pointed vaulting in England probably appears over the aisles at Malmesbury Abbey Church between 1140 and 1150.

I have not found any authority quoting the vaulting at Cefalù, which is quadripartite, ribbed,



FIG. 7.—CEFALÙ CATHEDRAL: PLAN. MEASURED AND DRAWN BY THE AUTHOR, 1884.

\* "Beginnings of Gothic Architecture" [JOURNAL R.I.B.A., 11th and 25th March 1899.]

and pointed. Seeing that Cefalù was begun in 1182, it may be assumed that the eastern apse was completed in five years. Thus the vaulting of the choir at Cefalù would be completed in the very year that a similar kind of vaulting was adopted at St. Denis by Abbot Suger. St. Denis is generally accepted as the earliest form of true Gothic vaulting; but there appears to be considerable probability that the Sicilian example is still earlier.

If this view of the Cefalù vaulting is correct, its importance is far-reaching: for, as Fergusson in his *History of Architecture* says, "vaulting was the real formative idea of the Gothic style, and it continued to be its most marked characteristic during the continuance of the style."

Mr. Seth-Smith, when he visited Cefalù, was much struck by the lofty choir opening into the nave: a feature he regards as elsewhere unknown south of the Alps. It will be noticed



FIG. 8.—CEFALÙ CATHEDRAL: INTERIOR TO EAST.

that in the south transept, below the groining and above the clerestory windows, is a gallery or triforium. This triforium is distinctly a Norman characteristic, and is not, I fancy, to be met with in any other church of the period in Sicily.

The special and predominant feature in the church is the pointed arch. The nave arches are pointed, so are the arches at the intersection of the nave and transepts, and the arch between the nave and choir. The arch between the nave and crossing of the transepts is pointed and curiously stilted; the arches of the apses and over the windows are pointed; in fact, the whole of the original structural arches are pointed throughout the church, excepting the small round arches of the gallery or triforium between the roof vaulting and clerestory windows in the south transept. The highly enriched west entrance, in which the circular arch occurs, is a later alteration or addition.

The sixteen monolithic columns of

the nave are of granite, with the exception of one which is of cipollino: they are surmounted by Romanesque capitals suggesting Corinthian influences.

The capitals of the pillars at the intersection of the nave and transepts are distinctly Norman. They are no less than six feet in height, and the lower portion of the northern capital is surrounded with a double belt of foliage, crudely worked, supporting human figures, about three feet high.

At the entrance into the choir are two white marble thrones decorated with mosaic. Over the one on the right is inscribed "Sedes episcopalis," and over the left "Sedes regin." The

two ambos, standing each on columns and enriched with mosaic, are also, fortunately, left intact in their original position.

The east window is a single tall lancet. In all cases the windows are small, a feature of Norman work which the latitude of Cefalù probably induced the architect somewhat to exaggerate.

The interior of the church is comparatively plain, with the exception of the central apse at the east end. This has been decorated with mosaic, which for grandeur of conception and perfection of execution has perhaps no equal.

Monreale, La Capella Palatina, and St. Mark's at Venice are generally considered to contain the finest examples of mosaics in Europe; but there is no figure in any of them to

CEFALÙ CATHEDRAL, SICILY.

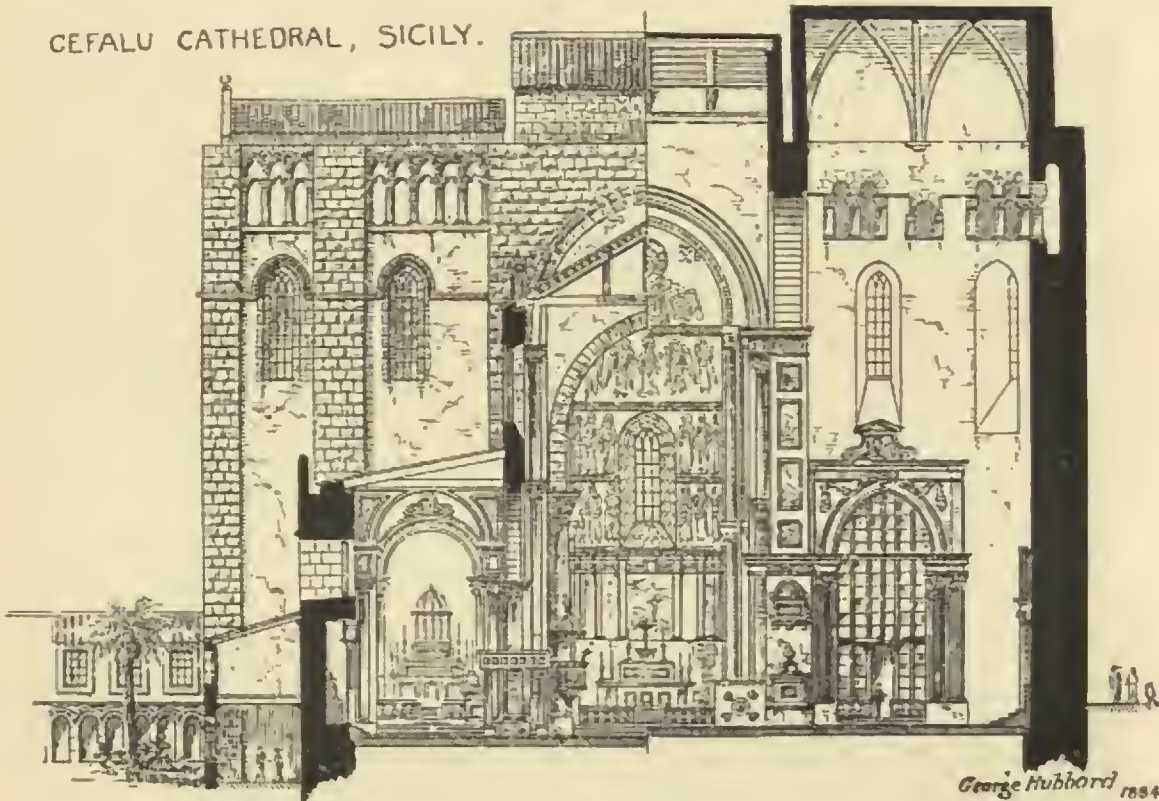


FIG. 9.

equal the great mosaic head of our Lord at Cefalù. The whole of the upper portion of the apse is glorified by a half figure of Christ with two fingers half raised as in blessing. Nowhere have I seen such impressive gravity as this great Christ looking down from the apse. Below the figure is a tier of winged angels with Christ again represented in their centre: below these are the Twelve Apostles, the whole being set upon a golden background. Around the apse arch, likewise worked in mosaic, is the following inscription:—

FACTUS HOMO FACTOR HOMINIS FACTIQUE REDEMPTOR  
JUDICO CORPOREUS CORPORA CORDA DEUS

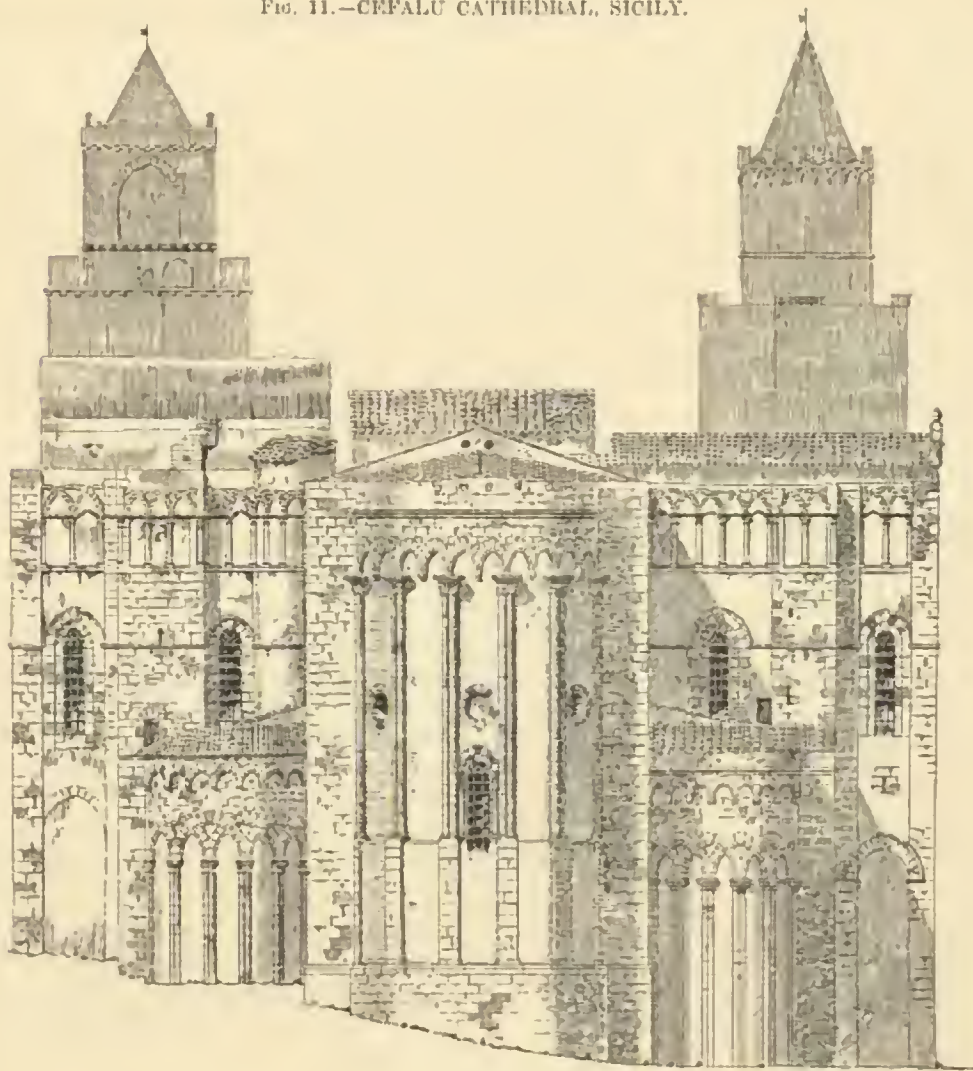
which may be translated, "Made man, the Maker of man and Redeemer of him I made, I, the corporeal God, judge both bodies and souls."



FIG. 10.—KATHARUA, CEYLON, SHILP : MOHAR.

There is no aping the effect of Christianity in this twelfth-century mosaic: its grandeur comes from the profound faith of these Sicilian or Byzantine Greeks who wrought it. Their work has remained impressive through the centuries, and still continues to impress the beholders with the earnest reality of mediæval belief.

FIG. 11.—CEFALÙ CATHEDRAL, SICILY.



EAST ELEVATION

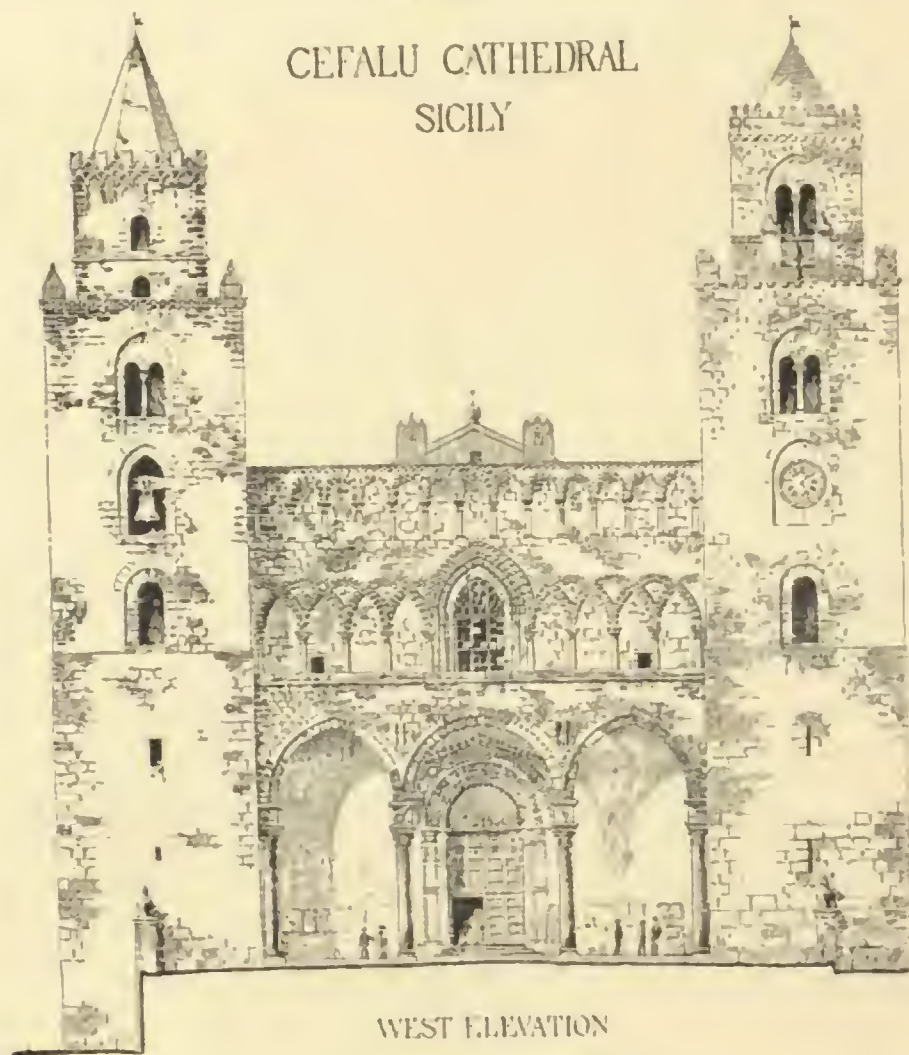
SCALE. ————— 6m

*Measured and drawn by the Author.*

Architecture is always an expression of faith, and as we judge these monuments of the past, so will those who follow us judge our works of to-day. But our works are not of the imperishable nature of Cefalù, nor is there the same strong faith to inspire them. The great stained east windows of our cathedrals in North-West Europe are altogether unrivalled in Sicily, but no window I have ever seen approaches in impressive grandeur the great Cefalù Christ, looking down the church from the eastern half dome of the presbytery.

Externally the east front is much enriched. The upper portion, with the exception of the central apse, is surrounded by a row of circular interlacing arches with the Norman chevron moulding. The two small lateral apses, which terminate at a much lower level, are enriched by interlacing arches supported on slender twin shafts, and above these interlacing arches is a series of small semicircles resting on grotesque heads. The central apse is surrounded by

FIG. 12.

SCALE  of feet*Measured and drawn by the Author.*

a row of small pointed arches, supported by a curiously wrought arrangement of slender twin columns, with alternate corbels between each pair. The predominating influence in the general design and in the details of this east elevation is as unmistakably Norman, as the predominant influence is Saracenic in the designs of the other examples of work carried out under Norman rulers in Sicily.

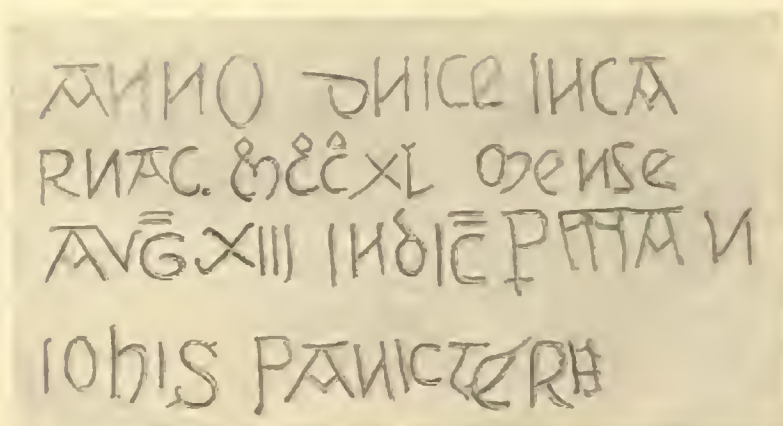
The whole of the interior, with only a few insignificant exceptions, besides the roof of the nave, remains as it was left by the original builders; as is also, fortunately, the case with the beautiful cloister on the north side of the church. The arcades of this cloister are formed by plain pointed arches resting on coupled columns covered with a variety of elaborate patterns. The capitals of the columns are all different. Some have figures, others are very close imitations of the Greek; all are of marble and beautifully executed. Rows of more fanciful columns and capitals it would be difficult to find. For instance, the columns in one couplet, as though forgetful of their proper purpose, spring off at sharp angles, and, after curling round each other, return again to their vertical line to support their capitals. The capitals themselves throughout are all alive with Romanesque imaginings—human beings struggling amid luxuriant vegetation, griffins with big wings, beasts and creeping things innumerable comporting themselves, each after his own kind, in a manner generally grotesque, always artistic.

Here the monks lived their daily life amidst the pleasing general levity of the details of these beautiful cloisters, which are in striking contrast to the stern gravity of design in the body of the church. Externally the west façade presents an extremely massive appearance, with its two solid square towers, one hundred feet high, terminating the north and south aisles. No plinth, buttress, string-course, or any attempt at ornament detracts from their absolute plain squareness, except a row of semicircular arches as a cornice under the battlementing of the north tower, and a billet moulding under the curiously devised battlements on the south tower. One or two windows alone give relief to these massive structures, and these windows are curious. We have here two small semicircular arches supported at their springing by a small shaft with a Norman capital, and these two semicircular arches are surmounted by an equilateral pointed arch.

On the top of the towers are small turrets with battlements of a truly Saracenic design. In bright contrast to these sombre towers the west wall of the nave, between them, is very striking. The total height of this wall is 69 feet; the upper portion is decorated by an arcade of Norman arches with the distinctive Norman zigzag mouldings, supported on small columns, having Norman capitals of different designs. Below this arcade is a row of interlacing pointed arches broken in the centre by the west window. This window, the only one of any size in the church, is 22 feet 6 inches high and 17 feet wide. It is pointed, and enriched with Norman mouldings. A porch extends between the two towers. It is composed of three arches, the centre one being round and the two side ones pointed. The roof of the porch is pointed and groined. To quote Mr. Gally Knight, "The west portal is remarkably curious. It is a semicircle, within a pediment, resting on plain pilasters. The moulding of the pediment is an imitation of the acanthus. The portal has five enriched *faciæ* with a bead at the edge.

"On the outside moulding is an enriched scroll, terminating with animals; on the next is the egg-and-tongue pattern; on the third, figures and pateras; on the fourth, interlacing foliage; and on the *facia*, next the door, appears the Norman chevron. The portal and pediment are of white marble."

The west wall and porch are, as will be seen, of a somewhat different character from the rest of the church, and are, in fact, the work of a later designer, whose name may, or may not, be found in an inscription to which public attention was first directed by Professor Salinas, the most eminent Sicilian antiquary, in a Paper read before the Sicilian Society of Historic Archaeology in 1880. It is cut in the lower order of the second arch in the arcade to the spectator's right of the west window above the porch. I copied it carefully myself in 1884, not having at that time seen Professor Salinas's Paper. It reads:—



ANNO DOMINICE INCARNACIONIS M<sup>o</sup>C<sup>o</sup>XL MENSE AUGUSTI  
XIII INDICIONE PER MANUS JOHANNIS PANICTERA.

In English it reads: "In the year of the incarnation of our Lord 1240, in the month of August, in the thirteenth indiction by the hand of Giovanni Panietera."

From this it appears that the western wall and porch were built almost exactly a century later than the body of the church, and what is strange is that, although both are pointed, the newer work relapses more frequently into the use of the circular Norman arch.

In order not to break the chronological order of construction, I have omitted, until now, any description of the wooden roof of the nave, which in its present form dates from a few years later than the west wall and porch. It is, as is often the case in English churches, flatter than the original one, as is evidenced by the indications on the external wall where the line of the steeper pitched roof abutted. Probably also, as in the majority of English cases, such of the rafters of the original roof as could, by cutting off the decayed ends, be made available, as well as the timbers still sound, were employed in the construction of the new roof.

However this may be, by a strange coincidence of luck, the date of the present roof is as accurately determined as that of the original cathedral or that of the western wall or porch. On two of the great beams are inscriptions recording the name of the benefactor who repaired it, and the year in which the work was executed. I made careful transcripts of these inscriptions, which, owing to the unusual form of certain letters and the extraordinary contractions of the words, appeared to baffle all efforts to decipher them; but by the kind help of Dr. Sebastian Evans I am now able to lay before the Institute, not only my original transcripts, but the full text in Latin.

† REGNÆ ILVÆ ODNONRO ICLTORECE

MANFR<sup>o</sup> REG. SICILIE ANNO V<sup>o</sup> F. & COMES

HER. D. XX MERPAR F. T. K. C. P. HO

REGNANTE ILLUSTRISSIMO DOMINO NOSTRO INCLITO REGE MANFREDO REGE SICILIE ANNO V<sup>o</sup> MAGNIFICUS  
COMES HENRICUS DE VIGINTIMILLIA REPARARI FECIT TECTUM HUIUS ECCLESIE PER HOC OPUS

In English this reads: "In the reign of our most illustrious Lord the renowned King Manfred, King of Sicily, in the fifth year, the magnificent Count Henry of Vintimiglia made the roof of this church be repaired by this work."

The second inscription:—

+ ANNO·DNI·M·CC·LXIII·MENS·I·N·VI·ID·REG

HE·RO·DNO·NR·O·R·EG·E·MAN·R·D·ANOV·DNO·H·OV·M·HOP

ANNO DOMINI MCC.LXIII MENSIS JUNII VI IDUS REGNANTE ILLUSTRISSIMO DOMINO NOSTRO REGE  
MANFREDO ANNO V<sup>to</sup> DOMINO [*in error for* DOMINUS] HENRICUS DE VIGINTIMILLIA FECIT HOC OPUS

In English: "In the year of our Lord 1263, on the sixth of the Ides of the month of June (*i.e.* June 8), in the reign of our most illustrious Lord King Manfred, in the fifth year, the Lord Henry of Vintimiglia made this work."

In his Paper already quoted Prof. Salinas refers to these inscriptions, of which he read the date correctly, though he was puzzled by the count's name, and adds that the cathedral church appears to have been urgently in need of repair long before that date. In 1232, in fact, Bishop Arduino II. was accused of having wasted the goods of the church without having spent anything upon it. The bishop made answer that most of the 70,000 tari he was said to have made away with in the course of seven years, had been spent in repairing the bishop's houses, and that he had already begun to repair the cathedral itself. It seems probable that the west wall and other works completed in 1240 were those which the prodigal bishop had thus begun in 1232.

In order to carry out these works a portion of the roof must have been temporarily removed, but the bishop's funds seem to have been exhausted by the repairs of the western front, and the roof had to wait till the magnificent Count Henry de Vigintimillia came forward with his magnificent subscription in 1263.

It is extremely interesting to find such inscriptions upon ancient buildings. To find the date absolutely determined, to have on record the names of the artists employed and the circumstances in connection with the building, are all matters which give a particular interest to Cefalù; and such records might with much advantage be more generally followed in the present day.

The generally accepted view that Cefalù, like other works built under the Norman rulers, was constructed by Saracenic workmen does not seem to me to be warranted by the evidence of the building. Not only do we get the distinctive Norman characteristic details, such as the zigzag or chevron moulding, the billet moulding, and the interlacing Norman arches, but we also find a pure distinctive Norman character in many of the capitals of the columns. The vaulting and groining of the choir and south transept is characteristically Gothic in its treatment, as distinct from the Saracenic vaulting. These details, taken in conjunction with the fact that this building is designed on the plan of the Latin cross, differentiate it from all others in Sicily built under Norman rulers, and, in my opinion, go far to show that Norman hands, and not Saracenic, laboured upon the structure.

In further support of this theory I desire to direct the attention of members to another fact which has hitherto escaped observation. The stones of the fabric are besprinkled with masons' marks, of which I have noted down some fifty. By a careful search I have no doubt that a vast number of them would be found to be reproduced upon mediæval buildings throughout Europe. As it is, I have noted down a few from Canterbury, Lincoln, and

Fountains, which in some cases are precisely similar to those at Cefalù, and others bear a strong similarity.

I doubt whether there is any definite knowledge on this curious feature in masonry. It is, however, worth recording, that the members of the Worshipful Company of Masons in the



FIG. 13.—MASONIC MARKS.

City of London used to affix their signs against their signatures in the books of the company, and many of these signs are common signs on buildings from a very early date down to the latter half of the seventeenth century.

If there were a brotherhood amongst masons in which the sign of the father was adopted by the son, then it becomes possible to understand the long-continued adoption of specific and similar devices. Wandering gangs of adopted masons doubtless congregated wherever important works were in progress, and they evidently affixed their signs on the stones they wrought and dressed. The sons, no doubt being brought up to the trade of their fathers, might wander off to a distant country where they would chisel the sign of their fathers upon their work. Some such theory as this could, I fancy, alone account for the small refinements in the development of Gothic details, and it is entirely in harmony with the testimony of the evidence of the stones themselves.

It is of course conceivable that such an alien race as the Saracens may have been accepted into the brotherhood; but I submit that it is unlikely, and, so far as my investigations have gone, there is nothing to bear out that view. Nowhere have I found masons' marks on the stones of other buildings erected in Sicily under the Norman rulers, and this fact, taken in conjunction with their purely Saracenic appearance, differentiates them from Cefalù. Cefalù, with its Norman details and its abundance of masons' marks, is singled out, and I submit the evidence goes far to show that this building is essentially a Gothic building erected by Norman masons.

If this view be accepted, then Cefalù must be accorded the highest position in the history of Gothic architecture. Here we have a building which was commenced in 1132, built by the Normans entirely with the pointed arch, with only one or two insignificant exceptions. Possibly nowhere can a parallel to this be pointed out. The celebrated Abbot Suger when he rebuilt the nave and west front of St. Denis in 1140 adopted the round and pointed arch almost indiscriminately; the eastern portion, built in 1144, is all pointed, except the crypt. This building is, I believe, the one usually accepted as being the earliest example of the transition from the round to the pointed style.

Chartres is perhaps the next building designed with the pointed arch; the west front is probably nearly contemporaneous with Suger's work. The towers were certainly in progress in 1145. Sens, the forerunner of Canterbury, in which the pointed arch predominates, was dedicated in 1167.

If the pointed arch is the right sign manual of Gothic, as the round arch is the right sign manual of Romanesque, then Cefalù appears to be the first church to mark that distinction in style. By these statements I do not want it to be understood that the pointed arch was unknown in France and England. What was known in one Norman province would probably be known in all, and there are no doubt very early examples of the pointed arch being introduced into both countries, while the pure Norman or Romanesque was the prevailing style. That the pointed arch may be the inevitable development from the round arch is perhaps undeniable. The advantage of the pointed arch in vaulting over oblong areas was recognised before the pointed arch was adopted as a style.

The point I do wish to emphasise is that at Cefalù the Norman, or in this case the Gothic, pointed arch was used probably as a distinct style at an earlier date than in any other building.

That the Norman Sicilian pointed arch is the earliest there can be no doubt. The ties of kinship, language, and nationality among the Normans of England, France, and Sicily were as yet far from being finally broken. All were members of a Church the organisation of which may almost be said to have been constructed on the interchangeable principle, so frequently were the clerks of all grades transferred to all parts of Christendom, and most frequently of all from one Norman territory to another. This principle, as I have before suggested, appears to have been the custom among the masons. Of all the theories yet

advanced as to the origin of the pointed style in North-West Europe, that which derives it from the Sicilian, as the Sicilian was itself derived from the Saracenic, seems to offer fewer difficulties, and to be more in accordance with the probabilities of the case than any other that has been propounded.

Of work belonging to a later date at Cefalù there is practically none. The only other object of interest is a massive silver altar and altar-piece, of Renaissance design, in the north

apse. Its erection was doubtless due to the piety of a good ecclesiastic. Its preservation intact to this day is a striking testimony to the well-known piety of the Sicilian brigand.

Two early monuments formerly in the church are still preserved elsewhere. In the cathedral church at Palermo stand four magnificent tombs for the Norman kings. They are exactly alike in design, except that two have been executed in white marble inlaid with mosaics, and two have been composed entirely of porphyry. Each is a large sarcophagus on a pedestal under a marble roof supported by four pillars. The subjection of the conquered race is typified in a manner, not without its pathos, by the four kneeling Saracens supporting the sarcophagus of King Roger, who had intended to be buried at Cefalù. The two porphyry tombs were placed by King Roger in the Cathedral of Cefalù, but were afterwards removed to Palermo by the Emperor Frederic II. to receive his father's body and his own.

I am aware that I have not got the support of the highest authorities

in the history of architecture when advancing my claim that Cefalù is essentially a Gothic building, and that it should take precedence above all others as the forerunner of our Gothic styles.

Fergusson, with his encyclopaedic knowledge, may perhaps be writing about Cefalù from personal inspection of the building; but I am inclined to think, from his references to Gally Knight for information, that he had not seen the building himself. Speaking of Cefalù he says: "It was commenced by King Roger in 1131. It is 230 feet long by 90 feet wide. The choir and transepts are vaulted and groined; the nave has a wooden roof; all the arches are pointed; and with its two western towers it displays more Gothic feeling than any other church in Sicily."

If Fergusson had stopped here, his remarks would, I think, be generally accepted; but on the following page he states: "The pointed arch there," that is, in Sicily, "never was



FIG. 14.—TOMB OF ROGER, NORMAN KING OF SICILY, PALERMO CATHEDRAL.

either a vaulting or constructive expedient." I submit that at Cefalù it is used in the chancel directly as a vaulting and constructive expedient, precisely as in France and in England later in the century.

Further on, Fergusson says, while still speaking of the Sicilian pointed arch: "It was used currently in Sicily by the Moors, and in Palermo and elsewhere became so essential a part of the architecture of the day that it was employed as a matter of course in the churches; but it was not introduced by the Normans, nor was it carried by them from Sicily to France."



FIG. 18.—CEFALÙ CATHEDRAL: VIEW FROM THE NORTH-EAST.

Of course it was not introduced by the Normans, but I submit, with all respect, that they may very probably have introduced into France the new style originating in Sicily. It is difficult to conceive that Cefalù had no influence on St. Denis, which was built in a similar style to Cefalù, and only some twelve years subsequently. The close connection between one Norman province and another is curiously exemplified in a notable and historical instance.

Before 1170, or possibly in that year, Henry II. of England offered the hand of one of his daughters—then in her sixth year—to William the Good of Sicily, and William seems to have thankfully accepted the proposal. There is no record extant of the manner in which this proposal was conveyed to William the Good, the Norman King of Sicily; but we can

hardly be wrong in assuming that the envoy was an ecclesiastical dignitary with sundry learned clerks, quite possibly an architect among them, in his train. It was not, however, till 1176 that the little Plantagenet princess, then having attained her twelfth year, was actually despatched to Sicily to be married to William. When she sailed she was accompanied by an escort worthy of a daughter of England and a bride of Sicily. Among the ecclesiastics who accompanied her were John, Bishop of Norwich, and Parisius, Archdeacon of Rochester; while on her arrival at Palermo the envoys were joined by Giles, Bishop of Evreux, and other dignitaries from Henry's dominions over sea. The wedding and coronation took place amidst unexampled rejoicings on 18th February 1177 in the Capella Palatina of King Roger's building at Palermo, Waldo, Bishop of Cefalu, being one of the witnesses to the marriage settlement.

This surely is very strong historical evidence of a close connection between Sicily and the mainland of Europe, and, I submit, should be taken into consideration in placing Cefalù in its proper position in the history of architecture.

The special points of interest to which I am anxious to direct the attention of the Institute are these: First, the certainty of the dates at which the several portions were constructed. The body of the church, with the cloister, was certainly begun in 1192; the west front, between the towers, was certainly far advanced, if not finished, in 1240; and the roof of the nave was certainly repaired in 1263. The second point is the fact that the original church was built throughout by the Normans in the pointed style at a date probably anterior to any other on the mainland of Europe. Also that the general Gothic appearance of the elevations, taken in conjunction with the fact that the stones of the building bear in some cases precisely similar masons' marks to those found on purely Gothic buildings, justifies a recognition of this building as a Gothic work.

I have to express my grateful acknowledgments to Mr. Theodore Fyfe, who has kindly supplied the view of the cathedral from the N.E., which I give on the preceding page.

## DISCUSSION OF THE FOREGOING PAPER.

Mr. HENRY T. HARE, *Vice-President*, in the Chair.

Mr. W. HOWARD SETH-SMITH [*F.*] said he rose with very great pleasure to propose a hearty vote of thanks to Mr. Hubbard for his admirable Paper. Mr. Hubbard had added to his archaeological knowledge immense boldness in the proposition he had laid before them that evening. He (Mr. Seth-Smith) was afraid that in taking part in a discussion on the subject he should expose his ignorance of the church of Cefalù. He had had the privilege of seeing it, but only for a day, whereas Mr. Hubbard had spent weeks, not only in taking notes of the building in every particular, but in making a most elaborate and beautiful set of drawings, of which they had had the benefit at that meeting. Mr. Seth-Smith went on to say that he had not expected to be able to be present that evening, and that he had jotted down a few notes with the intention of forwarding them to be read at the meeting. With the Chairman's permission he would now read his criticism of the Paper. Mr. Seth-Smith then read as follows:—

Mr. Hubbard's theory that the pointed Gothic style is derived from Norman Sicilian is so startling, and the argument with which he seeks to prove this point so interesting, that the evening could not be other than an important one. Had Mr. Hubbard gone no further than to declare, as he does, that the Northern Gothic pointed arch was derived from the Saracens through the Norman occupation of Sicily, we might have found it difficult to prove the contrary, but if, as he argues, the pointed arch is the sign manual of Gothic, then the Gothic style is Saracenic, and a great deal of writing and teaching will be undone! To most of our minds, however, the pointed arch is rather a happy coincidence in the production of Gothic art, giving it its æsthetic character; but the *raison d'être* of that style is scientific invention in building construction (as indeed of nearly all styles), and we should need more evidence than even Mr. Hubbard's ingenious mind has adduced in his Paper to convince us that Geo. Gilbert Scott's closely reasoned theory of the development of the Gothic out of Romanesque forms by Normans in France is not the true and only one, and there is no trace of this system of construction in Cefalù or elsewhere in Sicily.

Let us examine Mr. Hubbard's points in support of his declaration in the order of their importance as he himself does.

1. *That the Cefalù plan is that of the Roman cross:—*

Here he is, I think, quite correct in stating that this church is the earliest in Sicily in which this

form of planning was adopted; but does this prove its Gothic origin? Surely the Normans were not only familiar with this plan in a high state of development in the "Ile de France," but also as being the almost universally adopted plan of the Western Church throughout Europe. In all probability the Norman kings of Sicily were compelled, during the first fifty years or so of their occupation, by a policy of expediency (popularity, ignorance of the Saracenic architects' operatives of any other than the Eastern type of plan and construction) to adhere to the local conditions; but when Roger the Good was crowned in 1180 and began the palace royal and chapel in Palermo, he was more independent. The transeptal plan with choir was impracticable in the middle of the premier *étage* of the Palatine palace, but he felt free to plan his Cefalù Cathedral (which, as Mr. Hubbard tells us, was precisely contemporary) on a more episcopal scale. The choir of the former is, however, emphasised by a dome, as is the crossing of Cefalù, and its aisles are vaulted. The cathedral of Monreale, cloisters and all, was an enlargement and an enrichment of the Cefalù conception—Palermo Cathedral (before its internal ruin by the Palladian school) the same. From Roger's accession onwards no other church plan seems to have been admissible.

2. *That the choir and south transept are of groined vaulting, quadripartite, ribbed, and pointed, like parts of St. Denis, which are contemporary. The exterior of the eastern central apse is decorated by interlacing arches with the Norman chevron moulding, and above the similar interlacing arches on the small lateral apses are small semicircles resting on grotesque heads. The coupled window arches in the towers spring from a small shaft with a Norman capital, and there is a billet moulding under the battlements. On the west wall are seen the Norman zigzag.* These facts are, to my mind, the strongest arguments he has adduced for the distinctively Norman origin of the church. The minute care Mr. Hubbard has given to the structure forbids our suspecting these vaults to be a later insertion; and if original, they may prove, at any rate, that a Norman architect was employed, and his discovery of masons' marks also seems to be good evidence that a number of Norman operatives worked under such direction.

3. *That there is a triforium gallery above the clerestory windows and below the groined roof in the south transept, and that the caps of the columns at the intersection of the nave and*

*transepts are distinctly Norman, their lower portion being surrounded by a crudely worked double belt of foliage supporting human figures.* These features, as also the grotesque carvings supporting the label of the pediment over the main west entrance, point, in my judgment, much more to the imaginative North Italian Romanesque influence than to that of Northern France. The same remark applies to the cloister, which is a truly wonderful work of art, but may have been carved by Greek sculptors.

To sum up these friendly criticisms, Mr. Hubbard seems to have given us strong evidence in support of his theory that King Roger employed Normans to design and, in part at any rate, to execute this first of the great Sicilian cathedrals, but not sufficient to prove that its style is Gothic. Two such contemporary works as the Capella Palatina and this church would seem important enough to demand special advice and skill being imported from home; and as so many of the special features, such as the Roman plan, the interlacing apse arcades, and the chevron and billet mouldings, are profusely used in the later Palermo Cathedral and in Monreale, we find a subsequent continuation of this Northern (whether Italian or French) influence in fusion with the traditional Saracenic arch, vault, dome, battlements, and Greek-carved enrichments and Greek mosaics, and it is this most successful fusion of styles which creates so deep an interest in, and admiration of, Norman Sicilian architecture.

Mr. EDMUND KIRBY [F.], President of the Liverpool Architectural Society, said he should not have interposed in the discussion but for the fact that he had so lately as last December been in Cefalù. He had great pleasure in seconding the vote of thanks for Mr. Hubbard's excellent and suggestive Paper. It occurred to him that in order to follow his suggestion and theories with clearness they should try to remember how the Norman influence came into Sicily. In 1003 one Drago, a Norman knight, who had been on a pilgrimage to Palestine, was landed at Salerno, and was received with hospitality by the reigning duke. This prince, as usual in those days, had his "little war" on hand, and the Norman knight espoused his cause, and showed that courage which distinguished his race at that period. His valour indeed helped to turn the tide of victory in favour of his host. When he thought of going home his host persuaded him to remain and settle there, offering him various rewards. Finding that he got power and that it was pleasant to be there, the knight invited his friends in Normandy to come over and help him in other wars that were going on. That was the beginning of the Normans. They came over, and it was a remarkable thing that from Hauteville in Normandy there came twelve knights of Norman blood to settle in those parts. Wherever these knights went they showed their

prowess in war, and their prowess was rewarded by power and possessions. To cut a long story short, their descendants from the mainland looked with longing eyes on the Sicilian mountains, and they decided that the island must be a delightful place to possess. As there were divisions in Sicily amongst the Saracens who then occupied the island, the help of these powerful northerners was invoked, about the year 1062, by one of the belligerent sides. They went over from Italy, and after gaining some victories they took part of Sicily, and eventually became conquerors of the whole island. What was important for our notice about this conquest was that they always respected the religion, customs, and trades of the conquered. For example, for mutual protection in Palermo itself they divided the city in such a way that the Saracens lived together in one quarter and their original laws and customs were upheld and respected. This happened also with the Greek inhabitants and those Italians who came into the island afterwards. The Normans also had their own laws and retained their own customs. Notwithstanding these differences all went on in a happy and harmonious way. It might help Mr. Hubbard's argument to remember that the Saracens were an important native majority of the country, and that they were the traditional masters of the building arts and trades: consequently whatever building was required could not be carried out without the aid of the Saracens. Notwithstanding this fact one might be in full agreement with Mr. Hubbard in the contention he had so ingeniously put forward that evening about the curious introduction of Norman side by side with the Saracenic work. The following circumstance would assist in explaining how it happened. One of the early Norman dukes determined to build a church, and naturally his thoughts turned to his beautiful churches and skilful builders of the north. The Normans were always great builders, and the duke sent to Normandy to invite an expert to come out to Sicily and help in the proposed building operations. A Norman bishop and a lover of architecture responded, and brought with him no doubt a master of works, master masons, and other artificers. When these newcomers set to work they were evidently imbued, as might be expected from their training, with the beauties of the Norman style, and were so convinced of its superiority that its introduction into the buildings erected under their charge was a natural sequence. It was simply undeified Norman, just as in the same manner it was brought into England. At this period the arches and groining erected in England and Normandy were all rounded in shape. In Sicily the newcomers saw the Saracenic pointed arch for the first time, accepted its novelty, and adopted it for all future arcades, &c. Hence Mr. Hubbard had strong ground for his contention that this absorption of the new discovery led to its adop-

tion by the architects or masons of France and the north. To an Englishman travelling in a far-off foreign land the sight of the chevron so familiar in the Norman work of old English churches and cathedrals came to him as a pleasant and refreshing surprise. Not only was pure Norman work visible at Cefalù, but also on the west door of Monreale Cathedral and at Palermo Cathedral. On the west front of Palermo Cathedral there was a window that might be seen in England at Ilfley and other Norman churches. It was so mixed up with the Saracenic work that one felt that the workmen being native craftsmen were permitted to adhere to their Saracenic traditions to a considerable extent so long as the master of works could display the distinctive northern features. The freedom allowed to native ideas was apparent in various features. For instance, one could not help being impressed both by the work at the Cathedral in Palermo and at the Capella Palatina that at this early period the arches were pointed, when at the same time our arches in England and Normandy were all semicircular in shape. As regards the mosaics at Cefalù, they were beautiful in workmanship and magnificent in design. In the view of the chancel exhibited by Mr. Hubbard was shown the splendid head and bust of our Lord, of heroic size and distinguished outline. He was in the act of blessing with His right hand and holding the gospels in His left. A similar mosaic head and bust was at Monreale Cathedral and at the Capella Palatina, and it was also in a church at Rome. It might be seen too in other churches in Italy. It was a favourite idea to put the great Christ above in the vault at the end of the chancel in the attitude of blessing the congregation; but of all the mosaic figures of the Redeemer none were comparable in dignity and divine feeling with that at Cefalù. Another noticeable peculiarity of these figures was that, compared with the size of the surrounding figures and the architecture, their scale appeared to be gigantic. This might be so, yet neither the harmonious arrangement nor the proportions seemed to suffer. It might be mentioned that an etching by Axel Haig had been published representing a beautiful view looking from the nave eastwards into the chancel and apse, and giving the mosaics and the mysterious head of the Christ in the vault. As to the execution of these mosaics there was little doubt but that they were made in Constantinople, whence at that time came the most refined and beautiful works of art in all materials. At that period, as a great many of the Christians in Sicily were Greeks, much trade was carried on with the eastern empire and its capital. In addition to Arabic, Norman, and Italian, Greek was also a language greatly in vogue. If time permitted, much more could be said on this very interesting subject, but he should like to refer to one or two other points. The effect of mosaics when completed entirely over a church must have been truly

magnificent. From rough measurements taken, there might have been at Cefalù, say, some sixty or seventy thousand feet of mosaic work on its walls, and that calculated at £3 a foot would entail an enormous expenditure on this class of work. These reflections suggested a reference to the Westminster Cathedral now waiting for its bare brickwork to be covered in the same manner as Cefalù, Monreale, &c.; and when its still greater wall surface area was taken fully into consideration, it was easy to surmise that the cost would be enormous before this work was accomplished. It was to be hoped that the honest brickwork might be left uncovered until the best materials and the highest art could be brought into play for its decoration. After the lecture and remarks following it in praise of the great conception, one could not help recalling the depression which accompanied the student in his studies on account of the neglect and want of repair of the fabric of Cefalù. The photographs showed the desolation of the cloisters, and the porch had an insecure appearance. One of the main supporting columns required early attention, or it would soon fall. The Government, it was said, had charge of the cathedral, but as its funds were scanty the outlook for the proper repair and maintenance of the fabric seemed to be a very gloomy one. Mr. Hubbard's Paper had not only been very interesting in its descriptions and views, but also suggestive in its speculations on the introduction of the pointed arch into Northern Europe at a time when that arch was not in use. He begged to add his thanks to Mr. Hubbard for the pains he had taken and to heartily second the vote of thanks to him.

Mr. MATT. GARBUTT [F.] said that Mr. Hubbard seemed to have restricted himself to the one point he wished to make; but if he could have told them a little more, particularly about the question of workmanship, he might have elucidated his subject still further. The last speaker had pointed out that the Normans were living on terms of friendship with the Saracens, and that they were working together in their buildings. That was particularly interesting to hear. Those big granite columns appeared to be taken from earlier buildings in the way that was common among the Arabs at that period in all the countries that fell under their control; but looking at the masons' marks Mr. Hubbard had shown them, these at all events did not point to Saracen workmen as the masons. Nevertheless he noticed there was a marked contrast between the masons' marks shown from English buildings and those from Cefalù. Among the English examples there was only one that had a curved line in it, while there were a good dozen among those of Cefalù. That pointed probably to the different individuals having perhaps a little more facility with their tools, and possibly the carving at Cefalù would show a little better craftsmanship than that farther west at the same

period. What struck him very much, however, was the last speaker suggesting that the workmen would be Saracens. At that period it would probably have been found impossible to find a Saracen workman who would carve a figure; as a Mohammedan he would adhere strictly to the Mosaic prohibition. Even amongst the masons' marks there was a figure of a man, a most unlikely thing to be made by a Mohammedan workman at that time. Of course in the carvings of capitals figures appeared commonly; and Mr. Hubbard had mentioned that figures were introduced by the Normans and had not been used in Sicily before. That point might be pressed a little further, especially in view of the masons' marks, as showing that the masons at all events were not Saracens. One point he should not be inclined to follow Mr. Hubbard in—viz. that the kneeling figure supporting the sarcophagus was a Saracen. He did not recognise the costume as that of any kind of Mohammedan in any country of which he knew.

MR. R. PHENE SPIERS, F.S.A. [F.], said he had not been to Cefalù, and he had only seen the drawings shown them that evening; but in the early portion of his Paper Mr. Hubbard had mentioned one early church in Palorino which it was interesting to have had brought to their notice. He referred to the church of San Giovanni dei Leprosi, which was stated to have been built as early as 1071. There was a section of it on the screen showing the pointed arches and a dome erected over it, and showing that pointed arches were to be found in the earlier Saracenic buildings, and in this instance they were utilised in squinches forming the pendentive of the church. Near the church of San Giovanni dei Leprosi there was a second chapel built, in imitation of it, attached to a Saracen's château. At a later period this château was rebuilt by the Normans on a larger scale, and there was a photograph on the screen showing this very important building, of which very little was known. The château was known as the Castello di Mar Dolce or Favara. The original chapel was of modest height, comparatively speaking, but when the Normans built the immense château, finding it would hide the chapel which they were enclosing in it, they erected a second dome on the top of the original dome. There was an inner and an outer dome. The lower dome was dated 1068, and the upper dome was added by the Normans when they erected the larger château. As to the question of the Gothic nature of Cefalù, there was one feature which had not been alluded to, and which was in favour of its being Saracenic work. The nave arches were of two orders, with the very slightest projection between the two. In all the Norman or Romanesque work in fact the upper order was always brought out in advance of the lower one the whole depth of the order, while in Sicilian work, on the contrary, the upper order only projected slightly. On the screen there was a

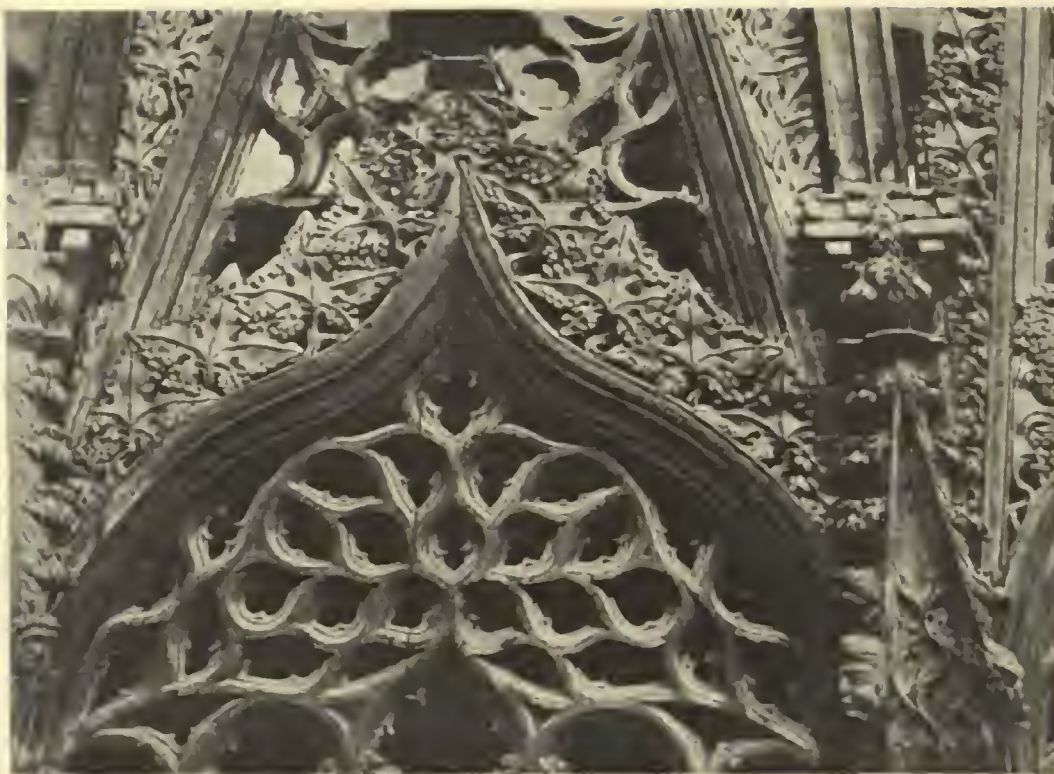
photograph of a bridge which was built in 1118 in which there were two orders of arches, the plane of the lower order being but slightly recessed behind the other. It was very evident that in the nave arches of the cathedral at Cefalù they were following the Sicilian custom, and he did not think they would find that slight recess in any Norman building. The style practised by the Saracens in Sicily was that which was found in a great many churches in the Holy Land. There were two churches in Syria, probably of about 1120, which were entirely vaulted over with barrel-vaults with pointed arches. Mr. Hubbard had referred to the very early date of the pointed arch in Sicily, but it was not the only example, because they knew it came from Egypt, and the pointed arch was used in the domes of Périgord and the Charente, in the South of France. All the domes there were built on pointed arches. It was simply a constructive feature; they found that the rounded arch tended to fall in the middle, and therefore they introduced the pointed arch. It was very difficult to know in some churches, perhaps, what inference to draw when one saw a pointed arch used. There was one singular fact in connection with it, that although the Normans in Sicily were the first to employ the pointed arch—probably because they employed Saracenic workmen—the pointed arch made its appearance later in Normandy than in any other part of France. That was also a point Mr. Hubbard would have to consider: how it was that, if the pointed arch were made use of in Sicily at a very early date by Norman workmen, Normandy itself was almost the latest country in which the pointed arch had been used. Everyone would agree that Mr. Hubbard had brought them a strikingly interesting Paper.

THE CHAIRMAN, in putting the vote of thanks, said he very much regretted that his friend and colleague Mr. Leonard Stokes had been unable to occupy the Chair that evening, because he had had the advantage of visiting Cefalù, and would have been able to speak about the cathedral in a much more able manner than he (the Chairman) could possibly do, not having previously had any acquaintance with it. They had listened to a most interesting Paper, and Mr. Hubbard had presented his subject in a most graphic and fascinating manner. There could be no doubt from what Mr. Hubbard had said that this was one of the earliest examples of the pointed arch seen in Norman work. The development of the pointed arch from Norman architecture was a very natural sequence, and the fact that this was one of the earliest examples of its being used could be explained by the association of the Normans in this case with the Saracens, who were more or less familiar with the pointed arch. That seemed to give therefore a sort of *raison d'être* for this being one of the earliest examples. There was no doubt that most of the masons employed in these buildings must have been

Saracens, for it was hardly probable that the Saracens would have imported all their work from so great a distance. He thought there was probably too much stress laid on the fact of the introduction of the figures into the carving. The Saracens, as Mohammedans, would not of course of their own will introduce figures into their carving, but amongst the Mohammedans there were probably individuals who were not so strict in their religious views, and who were perhaps more lax than they should have been.

MR. HUBBARD, in reply, said it had been a little difficult for him to follow and note down all the criticisms made upon his Paper; but he would deal with them generally and summarise them as far as he could. The pointed arch was probably used in Sicily for something like two hundred years before the Normans went there. It was the common style of the country, having been brought there by the Moors who came from Kairouan, a city lying to the south-east of Tunis. That Saracens might have assisted the Normans in building Cefalù was quite possible; but, even granting that, he thought it had no material bearing upon the point. The point was that at Cefalù was a building which was virtually a Gothic building from start to finish. Whether the labourers were all Normans, or some were Normans and some Saracens, did not seem to him to affect the case. With regard to Mr. Phenè Spiers' remark that the peculiar character of Saracenic arches in their recessed planes was apparent in the interior of the church, he agreed of course that to this extent the Saracenic influence might be seen. As regards the mosaics, these were undoubtedly carried out by Greeks from Byzantium. They were not the Greeks of Sicily. The Greeks of Sicily had been under the rule of the Saracens for something like two hundred years, and though they might have maintained their art in geometric mosaic, they would, in consequence of the prohibition contained in the Koran, have lost the art of portraying figures. The figure-work in all these churches in Sicily was extremely fine, and was evidently not the work of a novice. Add to this that the whole of the costumes in the mosaics in

Sicily were Byzantine and not Roman, in spite of the fact that their founders were attached to the Roman Church. The crozier, where it appeared, had the Byzantine globe at the end, and not the pastoral crook. The Apostles appeared in the Oriental pallium and not in the Roman toga. The bishops were without their mitres, which were universally worn by Roman Catholic bishops, but were not adopted by the Greeks. The Greek Byzantine custom of exactly portraying particular saints in a precisely similar manner, with Greek letters, was apparent throughout all the mosaics; they did not deviate from the standard pattern of particular saints, thus showing that they were anxious not to mislead worshippers by confusing their minds. He did not wish to lay any particular stress on the fact of the figures appearing on the Norman work. He believed it to be the fact, however, that there was no instance of carved or mosaic figures appearing in any work in Sicily until the advent of the Normans. That figures were to be seen in the capitals of many other works besides Cefalù only suggested that to that extent Normans had been employed on these buildings also. But his main point was that none of these other buildings had anything like the same Norman or Gothic characteristics which were to be found at Cefalù. Mr. Seth-Smith had referred to the transepts in other churches, but he knew of no other church in Sicily where the transepts projected beyond the side-walls of the church. Monreale was about the same date, but there the transepts did not project beyond the side-walls of the lateral chancels. He was glad they thought his remarks about the masons' marks interesting; it had been very interesting indeed to him to find those marks. He had collected some hundreds of them in different countries of Europe, and he was sure that the whole science of masons' marks had yet to be worked out. That they were to be found on Norman work and not on purely Saracenic work was a distinctly interesting point, and one which went far to prove, what he attempted to sustain in his argument, that Cefalù was essentially a Gothic building.



FIFTEENTH-CENTURY STALLWORK, LANCASTER CHURCH.

From a photograph by Mr. F. H. Crossley.

## ON THE ENGLISH ORIGIN OF FRENCH FLAMBOYANT.

By FRANCIS BOND [H.A.].

IN the *Journal des Savants* for February 1908 there appears a lengthy and generous appreciation of my book on "Gothic Architecture in England." The writer, Comte Robert de Lasteyrie, is one of our Hon. Corresponding Members, and in France, I may say, the *doyen* of medieval archaeology. After certain preliminary remarks he discusses at length the controverted question of the early date of the high vaults of Durham Cathedral, which he still declines to accept. He also sees difficulties as to the early date assigned by me to the choir of Wells Cathedral, which he believes not to be anterior, but posterior, to that of Lincoln Minster. Finally he discusses the statements made by me as to the English origin of French Flamboyant architecture. So many people in this country, and more in the States, still believe that our mediæval architecture is but a version of that of the architectures of France, and find it so inconceivably improbable that France should have borrowed from English design, that it seems worth while to give *in extenso* Comte de Lasteyrie's deliberate judgment on the subject.

Le dernier quart du xii<sup>e</sup> siècle fut une brillante époque pour l'architecture anglaise; les premières années du xiii<sup>e</sup>

siècle le furent moins, sans doute à cause du règne désastreux de Jean sans Terre (1199-1216). L'art de bâtir reprit tout son essor après la mort de ce prince, mais n'est cent ans plus tard, sous le règne d'Édouard III, que l'art gothique anglais a véritablement atteint son apogée. M. Bond a raison de dire que "la grandeur et la prospérité de l'Angleterre sous ce règne se reflètent dans son architecture." C'est alors, en effet, que triomphe ce que M. Bond appelle le *late decorated style*, et que d'autres nomment *curvilinear style*. Ce style dura peu, car il n'apparaît guère avant 1315 et dès 1350 ou 1360 commence à se manifester le style perpendiculaire, qui ne tarda pas à le supplanter et dont la vogue devait persister jusqu'en plein xvi<sup>e</sup> siècle.

.. Mais malgré sa courte durée, il a produit un nombre considérable de monuments importants dont les traits les plus frappants sont: une décoration d'une richesse, d'une exubérance même parfois excessive, et l'emploi systématique de la plupart des éléments qui caractériseront un peu plus tard notre style flamboyant.

Cette particularité, si intéressante pour nous et sur laquelle M. Bond insiste avec raison, n'a guère appelé jusqu'ici l'attention des archéologues français. Seul, M. Enlart en a fait l'objet d'une sérieuse étude\* dont la conclusion est que "le style flamboyant nous est venu d'Angleterre." M. Bond va encore plus loin. Pour lui,

\* *Origine anglaise du style flamboyant* dans le *Bulletin monumental*, t. lxx., p. 38 et suiv.

Flamboyant is nothing but our English 'Decorated' carried to its logical issue." L'Angleterre aurait payé de la sorte la dette artistique qu'elle avait contractée vis-à-vis de nous à l'époque romane, car :

"Just as surely as the Romanesque architecture of the eleventh and twelfth centuries of England is the imported and naturalised Romanesque of Normandy, so surely the Flamboyant architecture of the fifteenth and sixteenth centuries in France is the imported and naturalised 'Late Decorated' of England."

Voici comment M. Bond en explique l'introduction en France :

"The fourteenth century to much of France was a period of the utmost misery. Just when our own Gothic was winning its most brilliant triumphs at Hull, Boston, Howden, Selby, Beverley, Carlisle, Lichfield, Wells, Ely, France had to pass through the ordeal of the English Wars, the Jacquerie, the Black Death, the alienation of the Duchy of Burgundy, and the troubles in Flanders. For a whole hundred years the English wars went on. French Gothic architecture was practically annihilated. Her thirteenth-century style ceased to be, and died without an heir. In many districts of France hardly a single important church was erected in the fourteenth century. The history of the period is written plain in many a French cathedral—Sens, Beauvais, Limoges, Auxerre, Amiens, Troyes, Sens, Soissons—where the choir and nave are of the thirteenth century, but where the works stop and are not resumed till the fifteenth century, when at last they get their transepts. There is a great interval of time between these two periods—an interval so long that there was time for the great traditions of French craftsmanship largely to die out, so that when the foreigner was at length expelled from her soil, and France again was free, she had to make copious drafts on the art of England and of Flanders."

Je ne sais ce que M. Enlart pense du passage qui précède, mais je m'étonne qu'il n'ait suscité aucune observation de la part d'un savant français bien connu, M. Anthyme Saint-Paul, qui vient de publier récemment un intéressant article pour réfuter le travail de M. Enlart et soutenir que notre style flamboyant est né spontanément du style qui l'a précédé et indépendamment de toute influence étrangère. Il me semble, en effet, qu'il y a beaucoup à dire sur cette façon de présenter la question, et que le problème est plus complexe que ne le pense M. Bond.

Deux choses sont évidentes : la première, c'est que le *late decorated style* ou *curvilinear* des Anglais offre de nombreuses analogies avec notre style flamboyant ; la seconde, c'est qu'il a formé chez nos voisins un style nettement caractérisé longtemps avant que le flamboyant se soit pleinement dégagé chez nous du style rayonnant ou géométrique auquel il succéda. Ce dernier point me paraît définitivement acquis, car prouverait-on même que certains des monuments sur lesquels cette assertion s'appuie sont mal datés, il en reste, comme l'a fort justement dit M. Enlart, un trop grand nombre dont l'histoire est bien établie, pour qu'il soit possible de nier que le *curvilinear* était en pleine vogue au delà de la Manche cinquante ou soixante ans avant que le flamboyant fût à la mode chez nous.

Rien donc de plus logique que d'admettre une filiation directe entre ces deux styles, surtout si l'on songe au rôle que l'Angleterre a joué dans notre pays sous Édouard III et jusqu'au milieu du *xv*<sup>e</sup> siècle. Mais est-il juste de comparer ce rôle à celui que les Normands jouèrent en Angleterre après la Conquête et d'attribuer aux événements de la guerre de Cent Ans une aussi grande part dans l'influence artistique que l'Angleterre a pu exercer chez nous ?

Je ne le crois pas, car les armées d'Édouard ne furent point envahies de légions de moines et d'évêques bâtisseurs apportant en France les traditions artistiques de leur pays comme l'avaient fait les moines et les clercs normands que Guillaume et ses successeurs avaient appelés à se partager les bénéfices enlevés aux Anglo-Saxons. Ce ne sont pas non plus les barons et les chevaliers français que les défaites de Crécy, de Poitiers et d'Azincourt, conduisirent prisonniers à Londres, qui observèrent beaucoup l'état des arts dans la capitale anglaise et en prirent songer, à leur retour, à faire bénéficier notre pays de ce qu'ils avaient remarqué pendant leur captivité. Ce ne sont pas davantage les vaillants capitaines préposés par nos ennemis à la garde des villes ou des châteaux tombés entre leurs mains, qui purent contribuer à l'introduction du nouveau style. Ils avaient bien d'autres soucis que de bâtir des églises, et quand des travaux furent faits à quelque édifice dans les pays soumis à leur domination, il ne semble pas qu'on ait jamais appelé des architectes anglais pour les diriger, car, dit M. Anthyme Saint-Paul, les pièces d'archives ne manquent pas sur les architectes à partir de la fin du *xiii*<sup>e</sup> siècle ; en a-t-on encore signalé un qui soit arrivé d'outre-mer pour exercer en France ?

Reste l'hypothèse que des architectes français seraient allés voir les œuvres de nos voisins et leur emprunter des idées nouvelles. M. Bond, s'il y a songé, n'en a rien dit ; quant à M. Anthyme Saint-Paul, il la rejette sous prétexte qu'"on ne va guère pérégriner chez l'ennemi, ce qui n'est jamais sans désagréments et sans dangers." Or, sur ce point, les faits ne lui donnent pas raison. Les guerres qui ont désolé notre pays au *xiv*<sup>e</sup> et au *xv*<sup>e</sup> siècle n'ont pas empêché les relations entre nos artistes et ceux des autres pays ; l'histoire de la miniature permet de l'attester. Elles n'ont pas davantage interdit l'accès de l'Angleterre à nos architectes, à ceux du moins qui habitaient les provinces soumises à sa domination. M. Charles de Beaufort en a fourni une preuve curieuse : c'est un document par lequel nous apprenons qu'Alexandre de Berneval, le célèbre architecte de Saint-Ouen de Rouen, se rendit, en 1414, à Chellaston près de Nottingham pour y acheter l'albâtre nécessaire à l'exécution d'un travail dont l'abbé chargé l'abbé de Fécamp.

Des faits analogues ont dû se reproduire plus d'une fois ; il est peu probable qu'ils soient restés sans influence, et j'y verrais plus volontiers que dans les faits politiques allégués par M. Bond la voie par laquelle l'Angleterre a pu exercer chez nous quelque influence artistique.

Mais là n'est pas le point le plus obscur. Il y a une singularité que M. Bond et M. Enlart ont reconnue tous les deux, mais dont ils n'ont point donné d'explication satisfaisante. Tous deux nous disent que le *late decorated style* n'a régné en Angleterre que pendant une période de temps fort courte et qu'il était passé de mode depuis près de vingt ans quand la France adopta, vers 1380, le style flamboyant. Non seulement il était passé de mode, mais l'influence que les Anglais avaient exercée en France sous le règne d'Édouard III avait singulièrement décliné ; l'habile politique de Charles V avait réparé les désastreuses conséquences de la bataille de Poitiers et du traité de Brétigny, et les Anglais ne devaient reprendre sérieusement pied chez nous que plus tard, après la bataille d'Azincourt et l'assassinat de Jean sans Peur. Or à cette date le style flamboyant régnait en France depuis un quart de siècle, tandis que l'Angleterre le délaissait depuis quarante ans. Comment, dans ces conditions, expliquer que nos artistes s'en soient inspirés alors qu'ils n'empruntaient rien au style perpendiculaire qui a produit tant de beaux édifices en Angleterre depuis 1380 jusqu'au règne de Henri VIII ?

Cette objection est d'ordre historique ; on en pourrait trouver d'autres d'ordre technique.

Si, par exemple, au lieu de se contenter d'établir un parallèle sommaire entre le *late decorated* anglais et le flamboyant français, on examine de près l'agencement des

\* A. Saint-Paul, *Les origines anglaises du gothique flamboyant en France*, dans le *Bulletin monumental*, t. lxx, p. 483 et suiv.—M. Enlart a répondu à cet article dans le même fascicule du *Bulletin monumental*, p. 511.

voûtes, le dessin des fenestragés, le profil des moulures, le style des chapiteaux, on remarque une foule de différences. L'idée même d'un style est bien la même, mais la façon dont elle s'est exprimée chez nos voisins et chez nous diffère tellement que M. Enlart a pu écrire des phrases comme celle-ci : "L'Angleterre n'a pas de style flamboyant; on pourrait même dire qu'elle n'a point d'architecture qui y ressemble..."

Mais si cela est vrai, comment peut-on soutenir que notre style flamboyant est d'origine anglaise ?

M. Bond, qui connaît bien notre architecture française, ne doit pas ignorer que le style flamboyant ne s'est point substitué brusquement au style géométrique, que la plupart des éléments qui le caractérisent apparaissent peu à peu dans nos monuments, et qu'on en retrouve les origines bien avant le temps de Charles V et même d'Édouard III, car certains existent déjà à l'état embryonnaire dans des édifices du xiii<sup>e</sup> siècle, comme les cathédrales de Reims et de Beauvais.

Dès lors, ne serait-il pas plus exact de dire que le *late decorated style* des Anglais correspond à notre style flamboyant ; que son antériorité bien établie et les relations incessantes de la France avec l'Angleterre au cours du xiv<sup>e</sup> siècle ne permettent pas d'admettre qu'il soit resté sans influence sur la constitution de notre style flamboyant ; mais que cette influence n'a été ni aussi rapide ni aussi grande qu'on serait en droit de le supposer ; que la plupart des éléments qui constituent le style flamboyant existaient en germe dans l'architecture du xiii<sup>e</sup> siècle ; que l'exemple de l'Angleterre a sans doute amené l'éclosion de ces germes, mais qu'il n'a peu contribué à leur développement.

Il s'est passé pour le style flamboyant ce qui s'était passé, deux ou trois générations plus tôt, pour le style rayonnant ou géométrique. M. Bond reconnaît comme tout le monde que les éléments essentiels du style géométrique ont apparus en France plus tôt qu'en Angleterre, mais il conclut des nombreuses différences qui distinguent cette variété de l'art gothique dans les deux pays, qu'elle s'y est développée indépendamment sans que l'un ait fait aucun emprunt à l'autre.

On peut, en renversant les rôles, en dire autant du style flamboyant. L'Angleterre cette fois nous a précédée, comme nous l'avons précédée pour le style géométrique. Dans la voie ouverte par nous elle s'était engagée à son heure et à sa guise ; à notre tour nous l'avons suivie, mais de loin, entraînée moins peut-être par son influence que par les tendances qui se dégageaient, à l'insu de tous, des principes suivis et des habitudes prises depuis longtemps par les constructeurs des deux pays.

Voilà, je crois, dans l'état actuel de nos connaissances, ce qu'on peut dire de plus vraisemblable sur cette très intéressante question. On s'étonnera peut-être que je parle de l'état de nos connaissances à propos de monuments appartenant à une époque aussi avancée du moyen âge. C'est qu'aucune période, dans l'histoire de notre architecture nationale, n'a été jusqu'ici aussi mal étudiée. Nos écrivains et nos savants, Viollet le Duc en tête, éblouis par la splendeur des constructions religieuses du xii<sup>e</sup> et du xiii<sup>e</sup> siècle, ont prêté peu d'attention à celles du xiv<sup>e</sup> ; elles

n'ont encore fait l'objet d'aucune étude d'ensemble chronologique en est mal connue, et bien rares sont les auteurs qui leur rendent justice. M. Bond est de ce nombre, et les éloges qu'il accorde à notre architecture flamboyante, la supériorité même qu'il lui reconnaît à certains égards, sont d'autant plus dignes d'attention qu'il est un admirateur convaincu des édifices anglais, et que dans les comparaisons qu'il aime à faire entre eux et les nôtres, il lui arrive rarement de donner la préférence aux nôtres. Il y aurait là encore matière d'intéressantes observations, mais cela m'entraînerait sans doute à soutenir sur divers points des opinions contraires à celles de M. Bond, et je craignais que mes lecteurs n'en conçussent de son livre une opinion moins favorable que celle que je voudrais leur inspirer. Je m'arrête donc, et pour conclure je souhaite qu'il se trouve en France un auteur pour nous donner un pendant à ce bel ouvrage et un libraire capable de l'édition.

R. DE LASTEYRIE.

I have ventured to italicise certain statements of Comte de Lasteyrie. Putting them together, they form a judgment in which English archaeologists may entirely acquiesce. They concede—(1) that the "late Decorated style" of England corresponds with the Flamboyant of France; (2) that its anteriority is well established; (3) that the incessant relations between the two countries in the fourteenth century make it impossible that it should have remained without influence on the constitution of the Flamboyant style of France; but (4) that England contributed little to the development of the Flamboyant style in France. With this last clause I myself very largely agree. I have already written in my book (page 128, note) "that, whatever the extent of the foreign elements admitted by France into her later Gothic, she gave them a development all her own, characterised by native harmony and elegance." This concession I am still willing to make. Nevertheless, exceptions to it do exist. We are in possession of work done in this country in the fourteenth century which most certainly is Flamboyant, not in the germ, but in full development. This highly developed Flamboyant in England appears very seldom in architecture, but by no means infrequently in the applied arts; above all in wood carving. The illustration at the head of these notes shows some fourteenth-century stallwork in Lancaster Church photographed by Mr. F. H. Crossley. I am sure that every French archaeologist will recognise that Flamboyant design in the tracery of this stallwork is not in the germ, but in full development.



3 CONDUIT STREET, LONDON, W., 4th April 1908.

## CHRONICLE

### Prizes and Studentships 1909.

The pamphlet giving full particulars of the Prizes and Studentships in the gift of the Institute for the year 1909 will shortly be issued to members and be on sale at the Institute as usual. The prizes and subjects set for competition are as follows:—

**THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS**, open to British subjects under the age of forty.—*Subject*: "The Influence on Architecture of Modern Methods of Construction."

**THE MEASURED DRAWINGS MEDAL AND TEN GUINEAS**, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Mediæval—in the United Kingdom or Abroad.

**THE SOANE MEDALLION AND ONE HUNDRED POUNDS**, open to British subjects under the age of thirty.—*Subject*: A Casino on the Borders of a Lake.

**THE PUGIN STUDENTSHIP: SILVER MEDAL AND FORTY POUNDS**, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Founded to promote the study of the Mediæval Architecture of Great Britain and Ireland, and awarded for the best selection of drawings and testimonials.

**THE GODWIN BURSARY: SILVER MEDAL AND SIXTY-FIVE POUNDS**, open to members of the architectural profession without limitation of age.—Founded to promote the study of works of Modern Architecture abroad, and awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

**THE OWEN JONES STUDENTSHIP: CERTIFICATE AND ONE HUNDRED POUNDS**, open to members of the architectural profession under the age of thirty-five.—Founded to encourage the study of Architecture more particularly in respect to Ornament and Coloured Decoration. Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*.

**THE TITE PRIZE: CERTIFICATE AND THIRTY POUNDS**, open to members of the architectural profession under the age of thirty.—*Subject*: A Design, according to the Principles of Palladio, Vignola, Wren, or Chambers, for a Covered Arcade of Shops 200 feet long connecting two parallel streets.

**THE ARTHUR CATES PRIZE: A SUM OF FORTY GUINEAS**, open to British subjects who have passed the R.I.B.A. Final Examination at one sitting during 1906 and 1907.—Awarded for the best set of testimonials of study submitted for the Final Examination, and for studies of Classical or Renaissance, and of Mediæval Architecture.

**THE GRISSELL GOLD MEDAL AND TEN GUINEAS**, open to British subjects who have not been in practice more than ten years.—Founded to encourage the study of Construction. *Subject*: Design for a Landing Stage forming the principal approach to a Royal Palace from a Lake.

**THE ASHPITEL PRIZE: BOOKS VALUE TEN POUNDS**.—Awarded to the student who distinguishes himself the most highly of all the candidates in the Institute Final Examinations 1908.

### The London County Council and the Institute.

The following letter, addressed from the Institute to the Chairman of the London County Council, has been handed in for publication:—

21st February 1908.

SIR,—In view of the courteous consideration given by the London County Council and its officials to the suggestions made to them from time to time by the Royal Institute of British Architects upon architectural matters of public importance, we venture to point out how far more usefully suggestions of the kind referred to can be made in the initial stages of a scheme than after it has been developed.

We are aware of the difficulties which might stand in the way of the formal communication to the Institute, as a body, of proposals in their early and often confidential stages, when premature publicity might involve the failure of negotiations still in progress or other serious inconveniences; and our desire is to offer our assistance to the Council in dealing with the problems constantly before them.

The criticism by an outside body, however competent, of a scheme which has received the careful consideration of its authors, and is often the result of necessary compromise in matters which it would be contrary to public interest to divulge, is a task both ungrateful to us as critics and unfair to those who have prepared it. It would, on the other hand, be a pleasure to the Institute to be able to give their consistent and loyal support to the Council in their efforts for the advancement of the art of Architecture in London.

We beg, therefore, to suggest that when such

matters as street planning, the design of buildings on land leased by the Council, bridges, or monumental works under the control of the Council are under consideration, the Institute might be invited to depute one or two of its members—specially competent to deal with the particular subject involved—to confer with the Council or its officers charged with the matter, and give their views on its architectural aspect.

Should this procedure be found satisfactory, it might be thought desirable at a later period to constitute an Advisory Committee of a few architects, with perhaps a painter and sculptor, whose experience and advice could be placed gratuitously at the disposal of the Council. This in its turn, we may hope, would develop into a body corresponding with the *Conseil des Bâtiments Civils* of Paris, to which the architectural development of France owes so much.

Assuring you of the constant desire of the Royal Institute of British Architects to serve the Council in every way which can contribute to the beauty of the country they administer,

We have the honour to be, Sir, your obedient servants,

THOS. E. COLLCUTT,  
*President R.I.B.A.*

ASTON WEBB,  
*Chairman Town Planning Committee R.I.B.A.*

JOHN W. SIMPSON,  
*Chairman Art Committee R.I.B.A.*

ALEXANDER GRAHAM,  
*Hon. Secretary R.I.B.A.*

#### The Flashlight Advertisement Nuisance.

The increasing nuisance of the flashing electric-light advertisements and sky-signs in prominent places about London and other of our cities has engaged the attention of the Council and of the Art Standing Committee of the Institute. The Art Committee, by their Hon. Secretaries, have addressed a letter on the subject to the Society for Checking the Abuses of Public Advertising, and the Council at a recent meeting passed the following resolution, viz.—

"That the abuse of public advertising has become intolerable, forming a shameful disfigurement of our cities, and in the case of flashing signs an added danger to traffic. That the Royal Institute of British Architects, recognising the great service done to the community in the suppression of sky-signs by the London County Council, now strongly urges them to take measures for the stringent control of all public advertisements."

This resolution was communicated to the London County Council in a letter from the Institute dated the 10th March, and letters of acknowledgment have been received from the Chairman and from the Clerk of the Council.

#### The late Duke of Devonshire [H.F.].—The Burlington-Devonshire Collection.

At the General Meeting last Monday the Hon. Secretary, Mr. Alexander Graham, F.S.A., referred to the loss the Institute had sustained by the death of the Duke of Devonshire, one of the most eminent of its distinguished class of Hon. Fellows. The Institute, Mr. Graham reminded the meeting, was especially indebted to the late Duke for his large-minded liberality in handing over to its keeping the famous collection of drawings and sketches known to them all as the Burlington-Devonshire Collection. This collection, it may be recalled, had been lent for exhibition at the Institute in the year 1892, and later, through the exertions of the then President, Mr. J. Macvicar Anderson, the Duke, by a Declaration of Trust dated the 17th December 1894, made over the entire collection to the Institute, stipulating that the drawings should be open at all reasonable times for the purposes of study and reference to members and students of the Institute, and to any other persons privileged by the Council. The original document Mr. Graham laid on the table and invited members to inspect.\* The Trust is a permanent Trust, and is to hold good, to quote the document itself, "until the Institute shall be dissolved or shall otherwise cease to exist." Mr. Graham having referred to the contents of the Collection, which include drawings by Palladio, works by Kent, Vignola, Inigo Jones, John Webb, and others, concluded by proposing that a letter be written to the late Duke's representatives recording the Institute's high appreciation of the services he had rendered to students of architecture by handing over to the Institute in perpetuity this rare and magnificent collection of drawings. The motion passed by acclamation.

It has been suggested that a slight description of the contents of the Burlington-Devonshire Collection would interest members who have not yet had the advantage of seeing the drawings themselves. Such a description is ready to hand in the criticism of the drawings given by the late Mr. Penrose in an Address to Students delivered at the Institute in January 1895. Quotation is made from this Address as far as space permits. Mr. Penrose says:—

There are several portfolios containing drawings by Palladio, the greater number seeming to be authentic works by his own hand. There are also some by Vignola and some by Inigo Jones: all these deserve attention. Palladio's drawings mainly consist of a very complete series of the ancient remains existing in Rome in the middle of the sixteenth century, and particularly those of the Baths. What is chiefly worthy of remark is the style of drawing in these works.

The buildings are all carefully planned with a good supply of the leading dimensions. The principal lines only—including, however, everything of importance

\* The Declaration of Trust is set out in *extenso* in the JOURNAL for 17th January 1895, pp. 183 *seq.*

with reference to the general masses—are shown. There is no confusion. Soflits are never indicated by dotted lines. In the elevations and sections, tints, usually brown, perhaps sepia, are frequently used to denote shadows and recesses—pen-hatching more rarely, but, whenever used, very lightly drawn, so as not to obscure outlines. Where the scale admits, columns and entablatures are carefully drawn, and great pains must have been taken to ensure the exactness of the proportions. The capitals and bases of columns are very cleverly indicated, so as to suggest roundness in mere outline. Drawings of the Baths of Antoninus show some admirably drawn columns and entablatures to a good scale, and full detail of enrichments, with measurements and plumbs (in fact, complete working drawings); but there is no aim at picturesque effect. They are exactly what a carver would wish to have.

There are also drawings of buildings designed by Palladio, some, no doubt, by his own hand, treated exactly as the drawings of Roman remains previously mentioned; but there are some drawn more mechanically. Amongst the latter are some made for the cloister of the "Convento di Carità da Andrea Palladio, Architetto, per Antonio Vescovini Veneto."

The Chiericati Palace at Vicenza is well represented and accurately drawn. The angle columns—according to Vitruvius's rule, which must have been derived from Greek practice—are slightly larger in diameter than the intermediate columns. The somewhat unusual feature of impenetrating columns, which strengthen the angles of the front projection, has a Classical prototype—viz. at Brescia, and also in the lately discovered basilica at Lincoln and in some Romano-Greek examples in Asia Minor.

There are, further, a few drawings by Vignola which are well worthy attention. They are both highly artistic and practical. All is good explanatory drawing, and without any tricks of effect. Palladio's drawings have the same practical merits, but a higher artistic quality. If the executed buildings of the two are compared, Vignola will be found quite to hold his own.

With the Vignola drawings are some by Inigo Jones, for the most part more sketchy than the drawings by the two Italians above spoken of, but a few are excellent specimens of draughtsmanship—particularly a finished drawing of Inigo Jones's famous Water-gate, outlined in pen-and-ink, and slightly shaded by hatched work. This drawing is well worth the attention of those who prefer that style of treatment; but the Italian architects chiefly relied on a rather slight shading in monotint, which I must consider less likely to confuse the form of the outline than pen-and-ink hatching. There are several highly finished drawings by Kent well worth examining. They are most carefully drawn and shaded—rather too deeply, perhaps—in monochrome.

#### The Housing and Town Planning Bill.

The text of the Government "Bill to amend the Law relating to the Housing of the Working Classes, to provide for the making of Town Planning Schemes, &c.," presented by the President of the Local Government Board, Mr. John Burns, M.P., was issued last Saturday. The Bill consists of 61 clauses, with six schedules, arranged in four

parts—namely, (1) Housing of the Working Classes; (2) Town Planning; (3) County Medical Officers; and (4) Supplemental. The following is taken from the abstract of the measure which appeared in *The Times* last Monday:—

By the first clause of Part I. of the Bill, Part III. of the Housing of the Working Classes Act, 1900 (the "principal Act"), is extended to every urban or rural district, or other place for which it has not been adopted, as if it had been so adopted; and by the next clause a local authority may be authorised to purchase land compulsorily for the purposes of Part III. of the principal Act by means of an order submitted to the Local Government Board. Any local authority in connection with the exercise by them of their powers under Part III. of the principal Act may lay out and construct public streets or roads on any land acquired or appropriated by them for the purpose of that part of that Act, or contribute towards the cost, provided that the roads are to be dedicated to the public. Corporate bodies are empowered to appropriate or grant land for housing purposes, and boards of guardians are authorised, subject to the consent of the Local Government Board, to transfer land for the same purpose. The powers of the Local Government Board to enforce execution of the Housing Acts are defined as follows in Clauses 11 and 12:—

11.—(1) If the Local Government Board are satisfied—  
(a) as respects any parish in a rural district on the complaint of the council of the county in which the parish is situated, or of the parish council or parish meeting, or any four inhabitant householders of the parish; or  
(b) as respects any county district not being a rural district on the application of the council of the county in which the district is situated, or of four inhabitant householders of the district; or  
(c) as respects the area of any other local authority on the application of four inhabitant householders of the area; that the local authority have failed to exercise their powers under Part III. of the principal Act in cases where those powers ought to have been exercised, the Board may, after holding a local inquiry with reference to the matter, declare the authority to be in default, and may make an order directing that authority or, if the Board think fit, in any case where the authority in default is the council of a county district, the county council, within a time limited by the order, to carry out such works and do such other things as may be mentioned in the order for the purpose of remedying the default.

(2) Where the Local Government Board are satisfied as respects any parish in a rural district, on the complaint of the parish council or parish meeting or any four inhabitant householders of the parish, that a county council have failed to pass a resolution under section forty-five of the principal Act (which relates to the powers of county councils), for the purpose of remedying any default on the part of the council of the rural district, in a case where in the opinion of the Board such a resolution ought to have been passed, the Board may by order require the rural district council in default to take such proceedings or make such orders as the Board think necessary to remedy the default within the time limited by the order.

(3) Where an order originally made under this section by the council of a county district is not complied with by that council, the Local Government Board may, if they think fit, instead of enforcing that order against that council, make an order directing the county council to carry out any works or do any other things which are mentioned in the original order for the purpose of remedying the default of the district council, and for the purpose of enabling the county council to give effect to the order may apply any of the provisions of the Housing Acts or of section sixty-three of the Local Government Act, 1894, with such modifications or adaptations (if any) as appear necessary or expedient.

(4) Any order made by the Local Government Board under this section may be enforced by *mandamus*.

12.—(1) Where it appears to the Local Government Board

that a local authority have failed to perform their duty under the Housing Acts of carrying out an improvement scheme under Part I. of the principal Act, or have failed to give effect to any order as respects an obstructive building, or to a reconstruction scheme, under Part II. of that Act, the Board may make an order requiring the local authority to remedy the default and to carry out any works or do any other things which are necessary for the purpose under the Housing Acts within a time fixed by the order.

(2) Any order made by the Local Government Board under this section may be enforced by *mandamus*.

Part II. of the Bill provides for the making of town planning schemes "as respects any land which appears likely to be used for building purposes, with the general object of securing proper sanitary conditions, amenity, and convenience in connection with the laying out and use of the land." The Local Government Board may authorise a local authority (i.e. the council of any borough or urban or rural district) to prepare such a town planning scheme "with reference to any land within or in the neighbourhood of their area." If the authority satisfy the Board that there is a *prima facie* case for making such a scheme. But the scheme must have the approval of the Board and be subject to such modifications and conditions as the authorities in Whitehall may impose. One section of the operative clause of this part of the Bill reads:—

The use of land for building purposes shall include the use of the land for the purpose of providing open spaces, parks, pleasure or recreation grounds, or for the purpose of executing any work upon the land, whether in the nature of a building work or not, and the decision of the Local Government Board whether any purpose is a building purpose or not shall be final.

The Local Government Board may prescribe a set of general provisions for carrying out the general objects of town planning schemes which shall take effect as part of every scheme: but the Bill provides that special provisions shall in addition be inserted in every scheme defining the area to which it is to apply and the authority who is to be responsible for it. Where land included in a scheme is in the area of more than one local authority, the authority responsible for the execution of the scheme may be, as the Local Government Board directs, one of these local authorities or a joint body constituted specially, or two authorities exercising different powers under the scheme. The procedure regulations made by the Local Government Board will provide "for securing co-operation on the part of the local authority with the owners and other persons interested in the land proposed to be included in the scheme at every stage of the proceedings, by means of conferences and such other means as may be provided by the regulations." The authority responsible for the execution of a scheme may, after giving such notice as may be provided by the scheme and in accordance with the provisions of the scheme—

(a) Remove, pull down, or alter any building or other work which is such as to contravene the scheme, or in the erection or carrying out of which any provision of the scheme has not been complied with; or

(b) Execute any work which it is the duty of any person to execute under the scheme in any case where it appears to the authority that delay in the execution of the work would prejudice the efficient operation of the scheme.

Any expenses incurred by a local authority under this section may be recovered from the persons in default in such manner and subject to such conditions as may be provided by the scheme.

If any question arises whether any building or work contravenes a town planning scheme, or whether any provision of a town planning scheme is not complied with in the erection or carrying out of any such building or work, that question

shall be referred to the Local Government Board, and the decision of the Board shall be final and conclusive and binding on all persons.

Compensation in respect of property injuriously affected by a scheme will be paid by the local authority, but the amount will be determined by the Local Government Board, as will also the increase in value of any property caused by the scheme:—

Where the operation of a scheme injuriously affects any property, but at the same time increases the value of certain other property, and compensation is paid under this section in respect of the property injuriously affected, the authority responsible for the execution of the scheme shall be entitled to recover from any persons whose property is so increased in value the whole or any part of any sums which the authority are so liable to pay as compensation, not exceeding in any case the amount by which the property is increased in value.

The authority responsible for the execution of a town planning scheme "may for any purpose purchase any land comprised in the scheme by agreement, or be authorised to purchase such land compulsorily" in the same manner and subject to the same provisions as a local authority may purchase or be authorised to purchase land for the purposes of Part III. of the Housing of the Working Classes Act, 1890. Then follows an important clause by which the Local Government Board is empowered to order a scheme to be made or executed:—

If the Local Government Board are satisfied on any representation that a local authority have failed to take the requisite steps for having a town planning scheme prepared and approved in a case where a town planning scheme ought to be made, or that an authority responsible for the execution of a town planning scheme have failed to execute the scheme or any provisions thereof effectively, the Board may, as the case requires, either order the local authority to prepare and submit for the approval of the Board a town planning scheme, or order the authority responsible for the execution of the scheme to do all things necessary for carrying into execution the scheme or any provisions thereof effectively, and any such order may be enforced by *mandamus*.

This part of the Bill, it is specially provided, applies to the County of London, with the County Council as the local authority.

#### Protection of Ancient Monuments.

At the last Meeting of the London County Council the Local Government Records and Museums Committee reported as follows:—

That recent efforts to save Crosby Hall from destruction have shown how defective are the existing statutory provisions relating to the protection of monuments and buildings of historical or architectural interest, and, as stated in our report of February 4, 1908, we have considered whether any steps can be taken with a view to preventing the demolition of buildings of a similar character to Crosby Hall.

The main provisions of the statutes on the subject are as follows:—The Ancient Monuments Protection Act, 1882, provides that an owner of any ancient monument may by deed constitute the Commissioners of Works the guardians of such monument, and thereupon the Commissioners become responsible for its maintenance. The Commissioners may also purchase any ancient monument within the meaning of the Act, and for this purpose the provisions of the Lands Clauses Consolidation Acts may be applied, except those relating to the purchase and taking of lands otherwise than by agreement. These powers were extended by the Ancient Monuments Protection Act, 1900, which provides that where the Commissioners of Works are of opinion that the preservation of any monument is a matter of public interest by reason of the historic, traditional, or

artistic interest attaching thereto, they may, at the request of the owner, consent to become the guardians thereof, and thereupon the Act of 1882 shall apply. The Act of 1900 empowers the Council of any county to purchase by agreement any monument situated in such county or in any adjacent county, and at the request of the owner to become the guardian of any monument, and to undertake or contribute towards the cost of preserving, maintaining, or managing any such monument. It further provides that the public shall have access to any monument of which the Commissioners of Works or any county council are the owners, but where such authorities are guardians only, then the consent of the owner must be obtained. The expression "monument" means any structure, erection, or monument of historic or architectural interest, or any remains thereof. Lastly, by sect. 60 of the General Powers Act 1898, the Council may purchase by agreement buildings and places of historical or architectural interest or works of art, or undertake or contribute towards the cost of preserving, maintaining, and managing any such buildings and places.

We view with very great concern the gradual demolition of buildings of antiquarian, historical, and architectural interest, and it is clear that some more effective protection for such buildings is needed. We understand that in France a schedule is kept of monuments and buildings which are deemed worthy of preservation, and that the effect of scheduling a monument is that it cannot be destroyed even in part or be made the object of any work of restoration, repair, or modification of any kind without the consent of the Minister of Public Instruction and Fine Arts. Somewhat similar arrangements are in force in other countries. We cannot help feeling that had such a system been in existence in England, Crosby Hall, which was a unique specimen of London domestic architecture of the fifteenth century, would not have been destroyed.

As pertinent to the subject, it should be mentioned that a Royal Commission has recently been appointed "to make an inventory of the ancient and historical monuments and constructions connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people of Scotland from the earliest times to the year 1907, and to specify those which seem worthy of preservation." We see no reason why the reference to the Royal Commission should be restricted to Scotland, and we therefore propose that the Council should approach His Majesty's Government with a view to the inquiries of the Commission being extended to, or to a similar inquiry being undertaken in respect of, England and Wales. We recommend that His Majesty's Government be approached with a view to the reference to the Royal Commission appointed to make an inventory of ancient monuments in Scotland, and to specify those which are worthy of preservation, being extended to, or a similar inquiry being undertaken in respect of, England and Wales.

#### The Sister Arts.

The President of the Institute, Mr. Thomas E. Colclutt, responding to the toast of "The Sister Arts" at the annual dinner of the Incorporated Institute of British Decorators, remarked that architects generally did not pay sufficient attention when they were designing their buildings as to the needs of the painters and sculptors, and he was afraid also that the sculptors and painters sometimes did not sufficiently consider the architecture they were to decorate. The Royal Institute of British Architects, Mr. Colclutt went on to state, had a committee sitting considering the advisability of holding more or less frequent exhibitions, and they proposed to take the advice of other Societies,

such as the Royal Academy, the Society of Decorators, the Art Workers' Guild, and other important bodies. It would be a very great thing to bring painters and sculptors and architects more together; indeed, it was necessary for the advance of the arts generally that they should be better acquainted with each other's work. Luckily, there seemed a distinct advance amongst the public in the direction of wishing to have works of art. The fact that the Royal Exchange was being decorated as it is showed that the citizens of London desired to have some representative modern art in their midst. There were some very fine decorations in the Royal Exchange, but unfortunately the light there was so bad that a great deal of their beauty was lost. The work of decoration in the new Sessions House pointed to two lessons—one, where the artist had not been in complete accord with the surrounding architecture or the architect; and the other, where the artist had fully appreciated what was before him, and had kept the decoration absolutely in scale with the architecture. Those who had seen Professor Moira's work in the new Sessions House would appreciate what he said.

#### Proposed Bristol University and Chair of Architecture.

The Council of the Allied Society at Bristol, at a meeting held on 17th March, passed the following resolution:—"That the Bristol Society of Architects is of opinion that the establishment of a University in Bristol will prove highly beneficial to the art and practice of architecture in the city and district by the additional educational facilities offered to those who are being trained as architects, and that a Chair of Architecture would tend to promote interest in an art that is extremely far-reaching in its influence on the amenities of life. This Society, therefore, cordially supports the petition of the Bristol University College for the grant of a University Charter."

#### The Shakespeare Memorial.

At a meeting of the executive committee of the proposed Shakespeare Memorial at the House of Lords last week, with Lord Reay in the chair, final arrangements were made for carrying out the resolutions passed by the general committee at the Mansion House a few weeks ago. A letter was received from the American Ambassador expressing his readiness to join the executive committee. The particulars of the competition, open to architects and sculptors, as drawn up by the advisory committee (Sir Aston Webb, R.A., Mr. Thomas Brock, R.A., and Mr. John Helcher, A.R.A.), were approved; and it was decided that the sketch designs for the first part of the competition must be delivered not later than 1st January 1909. The terms are to be made known in the Press without delay. The committee of selection, who will decide the competition, was finally constituted as follows:—Lord Plymouth, Lord Esher, Sir E. J. Poynter, Sir Aston

Webb, Mr. Brock, Mr. Belcher, Mr. Sidney Colvin, Mr. Sidney Lee, Mr. J. Forbes-Robertson, and a sculptor to be nominated by the American Ambassador.

#### The late Stephen Powelson Rees [A.].

Mr. S. P. Rees [A.], who died on the 15th March from acute bronchitis, was born in 1858, and had thus just completed his fiftieth year. He was articled to the late J. Robinson (Diocesan Architect for Lichfield), and afterwards came up to London, where he was for some years chief assistant to the late William White, F.S.A. He also worked for the late J. M. Brydon, and was afterwards in the office of Mr. T. G. Jackson, R.A. About 1892-3 he entered H.M. Office of Works in the branch having charge of palaces and public buildings, first under Sir John Taylor, K.C.B., and later under Mr. John B. Westcott, M.V.O. Amongst the works he carried out were houses at Llysuan, Brecon, and at Ealing; Convalescent Home, Hampstead; factory for Mr. S. Kydd; stabling for Messrs. F. B. Cameron & Co.; and a number of shops for Messrs. Stewart & Wright. Having passed the Institute examination he was elected an Associate in 1897, and from that date to his death was in constant attendance at and took a great interest in the General Meetings. He was an enthusiastic "Mason," as many of his brother architects who are members of the "Craft" can testify. Mr. Rees was buried in St. Pancras Cemetery, Finchley, and leaves a widow and three children, the eldest following his father's profession. THOS. GARRATT [A.].

#### The New Zealand Institute of Architects.

The New Zealand Institute, one of the newest of our Colonial associations of architects, held its annual meeting on the 17th December last, and a copy of the address delivered on the occasion by the President, Mr. Wm. C. Chatfield, is now to hand. In a brief retrospect of the proceedings of the Institute since its foundation Mr. Chatfield referred to the enormous benefits the profession in New Zealand had derived from its establishment. It had brought about, he said, a solid linking together of the profession for their common protection and for the advancement of their art in the colony. It had also brought amicably together many architects who previously were unknown to each other, and established a feeling of good-fellowship that would be productive of the highest results, not only in the advancement of their own interests, but in placing the Institute upon a footing which would command the respect and confidence of the public. Reference to the annual report showed that the Council had undertaken a heavy work in the recasting of their constitution and by-laws. In his last address he had expressed a hope that during the current year affiliation of their body with the Royal Institute of British Architects would become an established fact, but the immense amount of consideration and negotiation such an undertaking involved, and the desire that what was done should be done as well as was possible, had left

the application for affiliation a matter for the earliest period in the following year. As regards the aspirations of their society for the future, their obligations seemed to point to the careful consideration by the council as to the proper selection, education, and training of the young architect who in the future would have to maintain the traditions of the profession. It should be their duty to encourage, by means of scholarships or in other ways, the young student whose ability and integrity were to render him fit to keep their profession ranking among the highest as a public necessity. Under their new constitution and by-laws the scope was very wide for the attainment of such ends by means of examination and rewards of merit. He therefore recommended to the council that the encouragement of the student should receive their most careful and profound consideration. He wished also to impress upon members, while speaking upon this subject of education, that they must first show that proper confidence in their own actions, not only in the use of the arts in which they were engaged, but by their personal character, individually and collectively, for that was their real standard of utility. Harmony must prevail among them, and they must be actuated by a keen desire, not only as regards their high and honourable profession to make their names and works respected, but that their actions, whether in rivalry or otherwise, should be marked always by that kindly courtesy and consideration one to another which should be the restraining influence of their lives. He trusted earnestly that their young Institute, born but two years ago, might flourish and grow to the irresistible strength of manhood, and form an institution that should be a credit to those who founded it, and a continual source of pleasure and pride to those who should seek its benefits and advantages.

#### MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1907-08, held Monday, 30th March 1908, at 8 p.m.—Present: Mr. Henry T. Hare, Vice-President, in the Chair; 28 Fellows (including 13 members of the Council), 26 Associates (including 1 member of the Council), and numerous visitors, the Minutes of the Meeting held 16th March 1908 [p. 332] were taken as read and signed as correct.

The decease was announced of Stephen Powelson Rees, Associate, elected 1897.

The decease was also announced of the Duke of Devonshire, Hon. Fellow, elected 1892; and the Hon. Secretary, having referred to the Burlington-Devonshire Collection of Drawings which the late Duke had, by Declaration of Trust, confided to the care of the Institute, the Meeting resolved, on the motion of the Hon. Secretary, that a letter be written to the Duke's representatives recording the Institute's high appreciation of the services he had rendered to students of architecture in making over to the Institute in perpetuity this rare and magnificent collection of drawings.

The following Associates, attending for the first time since their election, were formally admitted by the Chairman, viz.: James Westbrook Farmer and Edward Harold Waldegrave Harlock.

A Paper on THE CATHEDRAL CHURCH OF CEFALÙ, SICILY, having been read and illustrated by Mr. George Hubbard, F.S.A. [F.], a discussion ensued, and a vote of thanks was passed to Mr. Hubbard by acclamation.

The proceedings closed and the Meeting separated at 10 p.m.



FIG. 1.—BANK OF IRELAND (DANFON).

## A THREEFOLD ASPECT OF ARCHITECTURE: TRADITION—CHARACTER— IDEALISM.

By H. HEATHCOTE STATHAM [*P.*].

Read before the Royal Institute of British Architects, Monday, 13th April 1908.

THE question of tradition *versus* originality in architecture has been very much in the air lately. It has sometimes been discussed in respect of special styles—the mediæval tradition to be adhered to, as it still commonly is, in church building; the Queen Anne or Georgian tradition as a safe precedent in secular buildings. The London Board Schools were, I believe, distinctly intended to represent the tradition of London architecture at the latest period when there was still, at all events, a tradition governing the work of the building artisan. But these are only, as it were, separate chapters of tradition. Taking the history of architecture in its broadest aspect, even the rise, development, and decay of mediæval architecture are only a section out of the history. The Gothic shaft itself is only a development, by obvious steps, from the classic column. Looking at architecture not from the building artisan's point of view—a wholesome but at the same time a rather partial standard—considering it as the art of architectural conception, the great and permeating tradition is, in one form or another, that of the column and capital, which commenced with the earliest buildings we know of that are worth calling architecture in the intellectual sense, and which, whether it carries arch, or vault, or entablature, has impressed itself upon architecture more universally than any other feature. From this point of view the Renaissance, which used to be regarded as a gross and benighted abandonment of the mediæval tradition, was really a return (with modifications) to an older and more universal tradition. And it becomes almost a question whether this form, which reached its highest development in what is called the classic order, has not really become, in one shape or another, an integral part of architectural expression, just as metrical language has become practically an integral part

of poetic expression. It would be possible to argue that metrical verse is a mere convention which has nothing necessarily to do with poetic expression. Walt Whitman thought so, and put his idea into practice. Carlyle thought so, and wrote what is to all intents and purposes a prose epic on the French Revolution. But the sense of the world and the all but universal practice of poets are against them. Somewhat in the same manner, the column and capital, in one shape or another, has, over a very large field of architecture, including many of the most dignified and what we may call the most civilised buildings of the world—at all events those of the most civilised societies—come to stand for the expression of architectural dignity and refinement. In large and important buildings the most modern of our architects seem unable to get away from it. It greets one in every exhibition of competition drawings for a large building. Some people seem even to be jealous of any interference with its classic purity. Mr. Richard Hunt, the late eminent American architect, finding one of his assistants occupied in the evolution of a special form of Corinthian capital, said, "Do you think you can make a better capital than the Jupiter Stator?" and on receiving the answer, "No," said, "Then why are you trying?" When the National Portrait Gallery was in progress I received a letter from a correspondent, unknown to me—who must, I should think, have been either a very old or a very young man—pointing out that Mr. Ewan Christian was introducing a classic capital on the building different from that on the end façade of the National Gallery, which joins up to it, and adding, "Surely, Sir, you will raise a protest against this piece of vandalism." Naturally I did not; I protested against my correspondent.

Hunt's remark to his assistant, however, raises very pointedly the whole question as to the employment of the classic order in modern architecture. His remark was perhaps that of a man who was rather too great a purist; though one could not make a better capital than Jupiter Stator, to try to make a different one which should be as good is an exercise which cannot but be beneficial to the designer, whether or not it were to the building. But there is something to be said for the purist view. It cannot be denied that the introduction of the classic order, both on account of its actual appearance and of the associations connected with it, does conduce to giving a certain dignity and refinement to a building, and to the realisation of what Mr. Blomfield, in his recent admirable lectures to the Royal Academy students, called "the grand manner in architecture." And the adoption of the order, or one of the orders, in its pure form does not necessarily imply absence of architectural invention. A classic order building may be a very dull affair: the Royal Exchange and the Mansion House are perhaps two of the duller buildings in London, but that is not the fault of the classic order. Gandon's Bank of Ireland (originally the Parliament House) is surely not dull; but its interest consists in the modelling of the plan, in its free sweep of lines, and in Gandon's perception that a columnar order on a curve does look fine. And will any stickler for "originality" maintain that it would be finer if the order were pared off, and only the windows and the blank wall left? No, it is a traditional feature put to a fine use. So in the view of the Place Carrière at Nancy, of which Mr. Blomfield has kindly lent me a photograph, only the use of the orthodox columnar architecture could have availed to give to this grouping its stately and dignified *ensemble*, to be recognised equally whether you take the composition as a whole or consider the architectural screen in detail. Take the cross pavilion of the Louvre, again. Fergusson is exceedingly contemptuous about these pilasters, forty feet high, which, as he correctly says, "have no reference either to the structure externally or to the arrangements of the interior"; but are they nothing to the design? Take them away, and what is left? They are part of an architectural framework between which the utilitarian windows are inserted. It is certainly illogical, but art doth not live by logic alone; and, taking the effect of the buildings on the spot, I think that the finest bit of the Louvre. It is curious to turn from

this example, as part of a grand State palace for kings, to Wren's quiet and modest Morden College, and see the classic column again in this humbler form giving a quiet dignity to the courtyard. To be sure here it has a structural use; but for that a squared post would have answered equally well.

Some of the larger modern buildings in which classic tradition is followed serve to illustrate in how various a spirit this may be done. The Vienna Parliament House is a building of truly classic quality in its symmetry and its dignified grouping; and here, again, it may be observed that the effect of the building arises from the main general design and grouping, and from the effect of contrast between the columnar order above (in the wings) and the lofty and massive basement on which it is placed. The order in itself is purely traditional, but the design, as a whole, is an original combination. The German Parliament House shows the classic tradition without classic elegance or distinction; a heavy and clumsy design weighted



FIG. 2.—MUSÉE GALLIERA, PARIS (M. GINAIN).

with ponderous pavilions at the angles, and where the larger columns are employed only to carry a break of the cornice and a small statue above—classic tradition, but without the classic spirit. The Musée Galliera at Paris, by M. Ginain, one of the most complete and charming of modern city buildings, shows the classic tradition somewhat modified by French taste, in the treatment of the frieze, with its alternation of decorated and blank spaces, and the closer connection of the column with the rest of the structure by the bands which surround it, and which are continued over the wall space. Though the Corinthian order is adopted, nearly every detail speaks of modern France, giving her own feeling and colouring to traditional forms. This beautiful little temple of art was built to house a special collection of antiquities presented by the Princess Galliera to Paris—afterwards withdrawn, for reasons we need not go into here; it is now a municipal museum for temporary exhibitions, and the municipality have shown their appreciation of the building by glazing up the large arches at the front instead of at the back, in order to get more floor space inside, thereby materially injuring the

effect of the building, which is still, however, well worth a visit for its own sake alone, and is less known than it should be. The employment of the large order of coupled columns gives immense dignity to the main entrance of the Grand Palais des Arts in the Champs-Élysées, here also used with details that are characteristically French—perhaps a little too much so. But it is difficult to imagine anything that could give such dignity, in so suitable a manner, to the entrance to a great art gallery as these vast columns, reminiscent of a long line of classic ancestors, though it must be confessed that the utilitarian necessity for a glazed roof over the whole, which shows visibly above the blocking, clashes rather painfully with the traditional style. This reminds one also of what are often called the "useless colonnades" in front of the British Museum: they are useless, and that is their glory; they are purely for archi-



FIG. 2.—THE GRAND PALAIS, PETIT PALAIS, PARIS (M. GIRAULT).

tectural effect, and thereby suggest that something is behind them which was worth this effect, as a symbol of its value and importance. A well-known artist devoted to architectural subjects, who lived for some time opposite to the museum, told me that those colonnades were a daily joy to him; utilitarian persons have suggested that they should be walled up between to get more floor space in the museum. Returning to Paris, we have opposite the Grand Palais the large building, by M. Girault, which is called, by comparison, the Petit Palais, in spite of its classic traditionalism one of the finest and most original of modern buildings; but its real originality consists in the conception of the plan, which is an absolutely new architectural idea, with its great front block forming the main façade, and its double range of galleries in the rear with circular stair pavilions at the angles, and enclosing a semicircular courtyard laid out as a garden and surrounded by a graceful colonnaded loggia. I do not think there could be any better example of the possibility of embodying a novel architectural

creation in materials almost entirely derived from traditional sources. Traditional, too, are the beautiful pylons which flank the ends of the bridge across the Seine—"useless columns" again. A square masonry pylon with a cornice and blocking would have carried the statues as well, but how we should have missed the grace and the classic associations of the columns; the whole carried out, too, with a finish and refinement equal to that of the finest period of the Italian Renaissance. Such work is a standing testimony to the excellence of French architectural training, in the traditional styles at all events.

Of course there is the possible case of putting columns because you want to put something and do not know what else to put; in respect of which the Colosseum has been criticised on the ground of all those engaged columns—of three different orders in three stories, which have been said to be unmeaning and unnecessary. Well, if you are to make the outer retaining wall of a great circus, which is publicly visible, presentable, you must do something with it; and as a principle those outside columns are as defensible as Gandon's on the Bank of Ireland, and Soane's on the Bank of England. The real mistake at the Colosseum was in the want of reticence and judgment; in sowing wall-columns broadcast, so to speak, as if the only thing to do was to sprinkle the orders all over the building. They would have produced a finer effect if they had carried up the wall unbroken to a great height, and had one story of columns only at the top; a source of effect we shall come upon again. The vast erections of the Roman aqueducts were free from any columnar outbreak, and are all the more impressive on that account; but these were regarded as pure engineering, whereas the Colosseum was a place of amusement, to be rendered attractive by engaged orders. In more modern buildings, especially in this country, we find often that the columnar order is supposed to belong to the show face of the building, and is abandoned on the flanks and rear. This is evident in the contrast between the front and the flank elevations of Castle Howard, the latter of which rises only to rustication and wall arches. You see the same thing in the front and flank façades of Cockerell's branch Bank of England at Liverpool, the front of which is one of the most refined pieces of work which the modern classic revival produced in England: every detail of it shows the architect's learning and refinement; but in the flank elevation he abandoned this treatment, and introduced round arches with massive rusticated voussoirs; and it must be admitted that this is the portion which suggests most decidedly the character of a bank. His branch bank at Manchester (not quite equal to the Liverpool one) is treated in the same manner.

But the principle of using the columnar order as a means of emphasis, and of contrasting it with plainer masses, is a sound one, and often ensures effect where too liberal a use of the order fails to impress. It does not answer to crowd columns too liberally on a building. This view of Greenwich chapel reminds one rather of Mr. Lethaby's characteristic remark that it was the merit of Wren that "he perceived exactly what could be done with the Renaissance box of bricks." There is too much of the box of bricks about it. Schinkel made a bold bid for effect of contrast in his Nikolai church at Potsdam, mounting his columned dome on an immense square mass of solid building; only he weakened it by the portico, which has the effect of a fragmentary afterthought. In Messrs. Russell & Cooper's fine design for the County Hall the effect of the colonnade depends on its contrast with the lofty rusticated basement beneath it; another column order on the lower story would have destroyed the effect. There is the same contrast, and with the same fortunate result, as in the wings of the Vienna Parliament House. The Panthéon at Paris, a dignified building of the classic school, but hardly more than that, gains its chief effect from the contrast, both horizontally and vertically, of the columnar orders with the immense masses of plain wall on the flanks, decorated only with the heavy swags on the frieze. I have heard that mass of wall criticised as a vast expenditure of masonry on nothing. To my mind it is the one touch of genius in the building. The Panthéon has a noble interior design, but externally there is a certain stiffness and

hardness about it; Soufflot was a fine architect, but hardly a man of genius. Compare it with the less famous church of Val de Grace and one feels the difference. Mansart, who designed Val de Grace, and Lemercier, who had the chief hand in carrying it out, were both men of genius, and you feel here that they have let themselves go: there is a freedom and flow of line which is not to be found in Soufflot's building; the building has something of the quality which was indicated in the Paper once read here by Mr. Alfred Gilbert, when he said that in the architecture produced by architects who had been sculptors "there was evidence of a hand and mind which had been trained for the practice of the plastic art." The building has somewhat the appearance of having been modelled, so to speak, while Soufflot's has only been drawn. Without ignoring tradition it adds character to it.

And that brings us to the second part of the subject. What is "Character" in architecture, and how far can it be reconciled with tradition? In a sense they seem at first sight rather irreconcilable; for tradition means universalism, and character in general means individualism. The Greek temples had no character; they were a nationally accepted form. Character is more easily to be felt than defined. In some old works, such as this bridge at Nuremberg, built in a perfectly naïve manner, in accordance with the influence of circumstances and materials, there is an indefinable picturesque character which is almost like that of a work of nature. But that kind of character cannot be deliberately created; it comes of unconscious effort. What is character, then, which can be created by conscious effort? It means, in general, the evidence of an intention on the part of the architect to do something in a way that interested him, and not by rote and because it is the usual thing. The kind of buildings that are most absolutely devoid of character, among us, are perhaps the average hotel buildings, like the Grand and the Métropole and others—things that might have been made in a mill. There are better things than those, too—highly respectable buildings with rows of columns all correct and rows of windows all with the proper architrave framing round them, which yet we feel are dead architecture. Character may be shown in what seem little things. In the musing of the windows at one point, for instance, as at South Wraxall Manor; in the outlining of a gable in an unexpected form; in a picturesque contrast of materials. New Zealand Chambers, which startled everyone when first built, is a typical instance of character arising from the contrast between the heavy brick piers or buttresses and the free and playful treatment of wall and half-timbered work about them. I have picked out two simple street fronts which have distinct character—one by Mr. Hargreaves Raffles, the other by Mr. F. E. Williams; these employ everyday materials in a simple manner, but they have character; they are not the regulation street front. A design by Mr. Arnold Mitchell for Selly Oak Baths struck me as one of the most characteristic designs on a comparatively small scale that I have come across; every part of it is treated in a slightly unexpected manner, which is what one always finds in a building with character; it is not the way everyone would do it, but the way one man preferred to do it. That is what makes character; and if a man has no preferences his buildings will have no character, whatever other valuable qualities they may have. Now out of the stores of the Architectural Association (who have kindly lent me some forty slides out of their collection) I picked among others one of Thorpe Hall, an old and not a modern building; and I want to know what is the value of that, and why it is in the collection. Is anyone going to be inspired by it? A thing that is dull and mechanical in design is no less so because it is old. And why this house in Bath, too, out of the same collection, unless to show that you cannot make a street front interesting by mechanically repeating the same column and the same window, or nearly so, in every story? Now this front of a building in Berlin, by Herr Hoffmann (I am keeping still to rather simple examples), has character, with its rather more decorative upper story on two stories of plain rustication; so has this other by the same architect, a business building: in a simple way its



FIG. 1.—CHURCH OF VAL DE GRÂCE, PARIS (MANSART & LEBLANC).  
(By permission of the Proprietors of *The Builder*.)

treatment is carefully considered and not commonplace. In these more simple classes of building it is the commonplace that is the bane; and even with simple and cheap materials it is always possible not to be commonplace. Another example is from a photograph I got many years ago of a more or less classic villa in the suburbs of Vienna. What attracted me was the treatment of the projecting bay, not built on, as it were, but gradually curved out of the building, giving the effect of being modelled. Cirencester Town Hall is an example of a building with decisive character—all oriels and buttresses. In a very different way the Strozzi Palace is equally decisive in character: it represents the classic tradition, with the wall taking the place of the column, and a cornice of proportionate boldness crowning it, a cornice compared with which our poor little classic cornices of two or three feet projection are



FIG. 2.—CLASSIC VILLA, VIENNA.

absolutely feeble. In short, if a building is to aim at one special form of expression, let it be intensely that. Half measures do not create character.

Nor, on the other hand, is architectural character to be realised by mere multiplicity of detail. If the Strozzi had two vast cornices instead of one, it would be proportionally weakened in effect. If you cover a house, like Moreton Old Hall, with a network of black and white, straggling in all directions, there is no concentration, and concentration is an element of character. There is more of character in the house at Ludlow, with the timber-work introduced on the upper part of the wall, and just where it seems to connect with the roof; or in the Bell Inn at Tewkesbury, with its upright constructional lines of timber-work resting on a solid wall basis at the foot. Moreton Hall and some others of these old half-timber houses, a display of black and white fireworks all over, are overdone, and are more like curiosities than good architecture. Coming back to more monumental architecture, the same thing holds good. The façade of Marseilles Cathedral is not one I am very enthusiastic about, but it

shows the introduction of niches and sculpture in an effective way, so as to form a special feature with a special effect. The front of Salisbury fails of effect exactly because there is no such choice or restraint; they seem to have thought that effect was to be produced by getting in niches and arcading all over the front, as much as could be squeezed in. Result—no repose, no contrast; consequently, weak character. As a whole the cathedral is one of the most beautiful, and the way in which its pyramidal composition rises from and contrasts with the level lawn which forms its base is (whether intentionally or not on the part of the builders) an example of character on a great scale; but the west front is the weakest thing about it, just because they tried to cram too much detail into the space. You want contrast. What is it makes the great effect of Chambord? Just the contrast between that multitudinous mass of chimneys and turrets on the top and the comparatively plain walling below. The same multiplicity of treatment on the walls would have weakened it all.

Then there are towers. There are two ways of giving character to a tower: the rich and sumptuous treatment (the Somersetshire type) and the type in which the tower is treated as a lofty stalk with a decorative treatment concentrated on the upper story. Barry used both in the Houses of Parliament, to express the difference between the ceremonial and the utilitarian tower. The stalk type, which is the Italian type, probably had a utilitarian origin, as in such examples as the Signoria at Siena. That looks picturesque to us now, but it was not built for any such motive; it is essentially a fighting tower, a lofty retreat with a platform whence you could hurl missiles at the enemy below. But even when not utilitarian the type is always a characteristic one, with its contrast between the plain solid stalk and the open stage at the top, even in such a simple example as the little tower at Montepulciano Cathedral. In an almost equally simple manner that of S. Francesco at Assisi is a characteristic example. In our own day and city we had a case in which the utilitarian type of tower, with the plain stalk and the decorated upper stage, was absolutely called for by the circumstances. The towers of the Tower Bridge were simply supports for the suspension chains and the tension girder connecting them; but they are treated like an overgrown church tower, divided up into stages, with useless windows. If anything with that kind of picturesque roofing were desired, it would surely have been possible to combine it with a plain solid masonry tower, having only the character of a support, and with the tension girders brought right through so that you could see what the suspension chains were attached to, instead of letting them look as if they rested on the masonry, which they would rake down at once. The square and circular turrets in this design are not capricious, but express the facts: a circular turret is best for a staircase, a rectangular one for a lift; and all such expressions of fact have to do with character.

Although Ruskin made a most grossly unfair comparison, in one of his illustrations in the *Stones of Venice*, between the English type of tower and the Italian one, I think he was right in judging the English types as in many cases very weak and wanting in character. Taunton is a fair specimen, but wants decisive character; it is too much divided into equal heights, and the horizontal stages are too marked. Ilminster is better, because the vertical lines which conduce to the appearance of height are better brought out. Evercreech has the same kind of merit. Antwerp tower, with its fine soaring lines and lofty lantern developing out of the tower, is a far finer thing, and with more marked character, than most of our English square-lined towers; it has that appearance of architectural growth, in subordination to one leading idea, which is so important an element in tower design. We may contrast it in this respect with the much over-praised belfry at Bruges, which poets write about, but which is very bad architecture, with no leading character about it; one story piled on the top of another that seems to have nothing to do with it; nearly as bad as that ugly and equally

botched-up affair at Venice, which had the good sense to fall down, and of which foolish people are now, at great cost, building up an imitation which will have the ugliness of the original without even its historic interest. In any other age of the world people who had got rid of such a tower as that would have set their wits to devise a better one, instead of building an imitation of it.

Spires, too, have their character and their lack of character. A spire should seem to grow from the tower, and soar up with as clean entasised lines as possible; Snettisham is a beautiful example; King's Sutton another fine one, though not quite equal to the other. A spire of the soaring type should not be too much cut up with lucarnes: they interrupt the line. I would have large lucarnes at the foot, if you like, to strengthen the base and connect



FIG. 6.—THE PASTELLISTES' PAVILION, 1900 EXHIBITION, PARIS.

it with the tower, and then no more but a small set near the apex. Warmington, however, is a rather amusing exception, and certainly has character of a kind. The architect chose to build a squat spire, and to emphasise its squatness by very large lucarnes. He did the thing thoroughly, and there is always character in that. Islip is a specimen of the harmless spire, with no marked character one way or another: it is a spire, and it is planted in the middle of the tower, and that is all.

There is a phase of character in design which aims at indicating more or less the purpose of a building. The French are rather clever at that, and Labrousse's Ste. Genevieve library, with its solid panelled walls with inscriptions, representing where the bookcases allow of no windows, has become rather typical and has been a good deal imitated. At the 1900 Paris Exhibition I knew that somewhere in the grounds the Society of Pastellistes had a pavilion of

their own, and was about to ask where it was, when I caught sight of this, and went straight for it. The grounds were full of pavilions, but I was sure that was the Pastellistes. Why? Well, it was evidently designed by an artist, but one who had treated the architecture in a light and playful way, as if it were a kind of side-dish in architecture, just as pastel is in painting. There was perhaps something in the colouring, too, which the photograph does not give. It was certainly a very clever piece of characterisation. In a totally opposite direction is the treatment of a factory, the Larkin Building, at Buffalo, U.S.A., by an American architect,



FIG. 7.—THE LARKIN BUILDING, BUFFALO, U.S.A. (MR. LLOYD WRIGHT).  
From the *Architectural Record*.

Mr. Lloyd Wright. It is not beautiful, but character in keeping with its purpose it certainly has. We hardly think of this enough in England. For instance, there is the War Office, a very dignified classic building. But considering that there are two new Government offices in or abutting on the same street, of which the other one, lower down, is devoted entirely to peaceful operations of government, there surely ought to be a more recognisable difference between the War Office and the tape and sealing-wax office, or whatever it is. One would have thought that if we were told the War Office was in a certain street we might expect to find something like a fortress, rather than a peaceful classic building suggesting a very large club.

Then there is (sometimes) character as bearing on the relation of the building to the site. A site on a declivity, for instance, is or should be a most joyful business for the architect, as

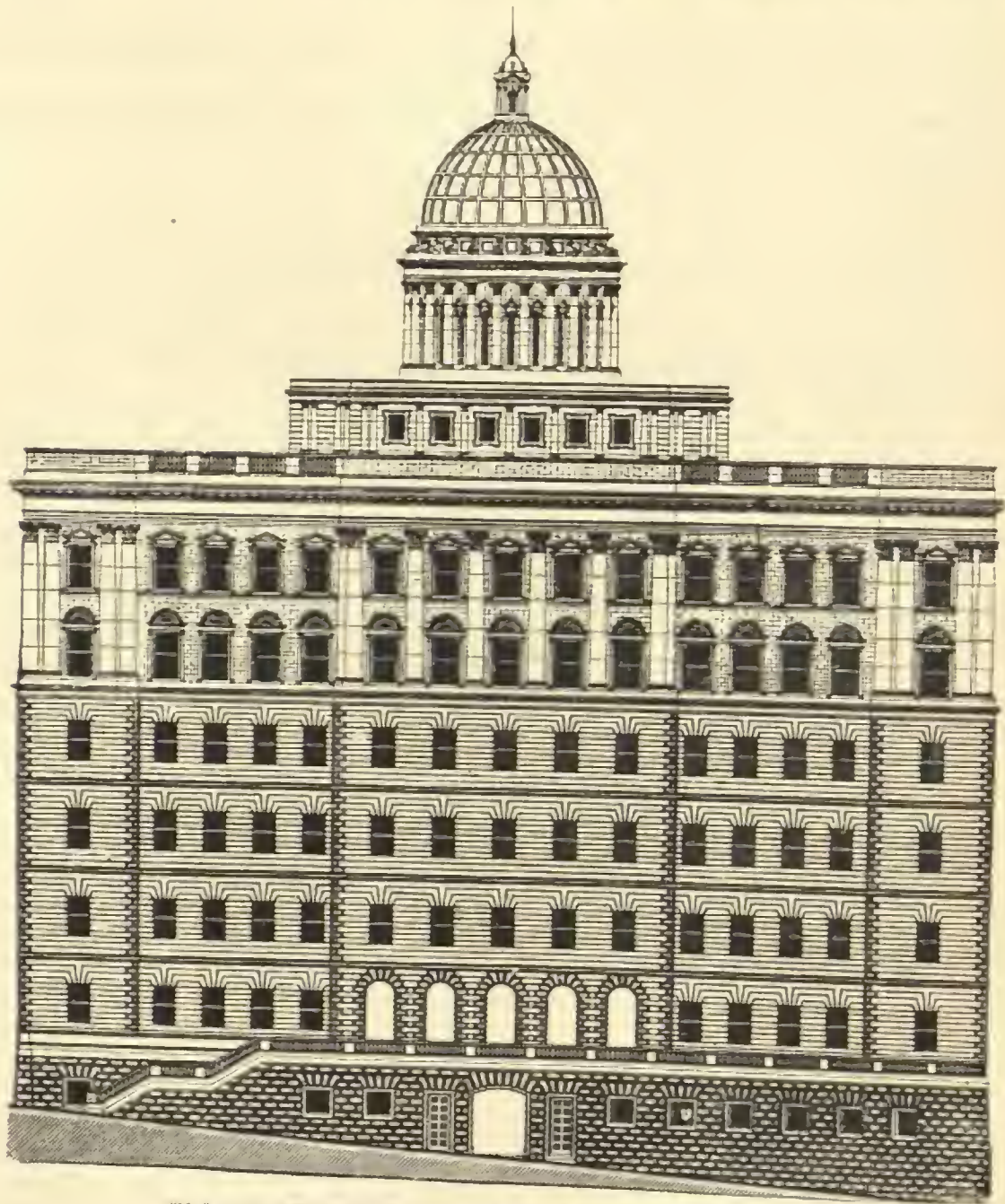


FIG. 3.—FIRST PREMIAED DESIGN FOR EDINBURGH MUNICIPAL BUILDINGS (MESSRS. LETHBRIDGE)

almost making the picturesque in itself. And the rule in such cases should be absolute: where the building is low on one front and lofty (or deep) on the other front, as rising from

lower ground, make the very most in your design of what may be called the deep end. One instance of this I will name. I was one of the eighty-three architects, I think, who some twenty years or more since competed for a building that was never intended to be built—the municipal buildings for Edinburgh, with the front on the High Street and the back going down into the valley between the old town and Princes Street. Messrs. Leeming, who got the first premium, had a classic design to High Street, and they carried their order round on the same level to the back, and made the whole height of the building beneath nothing but a mass



FIG. 9.—COMPETITION DESIGN FOR EDINBURGH MUNICIPAL BUILDINGS: ELEVATION TO WARDON CLOVE (H. H. STATHAM).

of plain rusticated masonry to carry the order at the top; what I said ought to have been done with the Colosseum. It was a splendid idea, and I believe it was partly that which got them the first place; at least, I heard that Mr. Waterhouse, who was assessor, was delighted with it. I had something of the same idea myself, in a different way. The flank of the building went down an immense flight of steps, and the large mullioned windows and wall tracery which formed the treatment towards High Street were to be carried along the flank at the same level, leaving all the wall beneath quite plain. I pleased myself very much with the

idea of possibly seeing that carried out. Most of the competitors, as far as I remember, introduced the same window design at a lower and lower level as the steps descended. They may have been right, but it seemed to me it was losing a chance; and obviously the successful competitors took the same view.

How far is it possible to combine the classical tradition with character? Poelmert's remarkable attempt, in the Brussels Law Courts, seems to me to have been on wrong lines; he manipulated classic forms into something of his own, but with the loss of their delicacy and refinement, and his building has a kind of quasi-Asiatic feeling which is at variance with the classic tradition. Character is more likely to be assimilated with tradition by special grouping than by the modification of details. Mr. Flockhart's design for the County Hall is an example of this—a design in which classic features are treated with a special grouping which gives distinctly character to the design. Mr. Belcher's Chartered Accountants' building is one of the most successful examples of the kind of our day—a design in which traditional forms are associated with new features which are highly characteristic, while keeping their place in subordination to the main traditional forms; and the design has that modelled character which Mr. Gilbert desired to see, and which we noticed as characterising the Val de Grâce church. Then there is the resource of treating and combining classic detail with a freedom and multiplicity which suggest the spirit and effect of Gothic rather than of classic architecture. We find something like this as early as Bramante's design for St. Peter's, which in its general character and grouping is certainly rather Gothic than classic; it may be questioned, however, whether the actual St. Peter's, with all its faults of scale and detail, is not a grander building than Bramante's would have been. The most remarkable modern example of this type of classic detail treated in a Gothic manner is, perhaps, Ballu's church of La Trinité in Paris: every detail is classic, yet the whole impression is completely Gothic. Mr. Jackson's design for the County Hall seems to me to have somewhat the same characteristic; in spite of the detail it is essentially Gothic in character. Then there is Barry's remarkable spire at Halifax Town Hall—his last work, which he did not live to carry out—in which he has evidently, and intentionally, treated a spire with classic detail used in a completely Gothic manner. The illustration, which is from a powerful drawing by Mr. W. Monk, was taken a little too close up to the building, and hence gives it in a perspective which foreshortens it rather; it looks loftier in proportion than that. It is a very remarkable building, less known among architects than it deserves to be; and anyone finding himself near Halifax would do well to go a little out of the way to see it.

While speaking of the union of Gothic and classic elements I should like to mention a rather remarkable study which was made by the late Mr. James Hay, of Liverpool, at the time of the first competition for Liverpool Cathedral. The intended site of the cathedral was then to be close to St. George's Hall and a group of other buildings in classic style. Mr. Hay conceived the idea of designing a cathedral which should assimilate to the style of St. George's Hall in the lower portion, and should, as it were, effloresce into Gothic at the upper stages of the towers, thereby giving what was then supposed to be the necessary ecclesiastical touch to it. One would have thought such a combination impossible, and yet it really does not look so *outré* as might have been expected; and it was at all events a very clever experiment.

We seem to come to this, then, that the great classic tradition of architecture makes for dignity and a grand manner in architecture; that, while the mere scholastic acceptance of the tradition may produce what is dull and lifeless, it is possible to produce new and striking grouping and expression with traditional forms; that tradition can even be allied with character—character always of a restrained and dignified cast, for freakishness will never

blend with tradition ; and that character in itself can give life and interest to those minor and humbler buildings which do not rise to the heights of tradition. Is there, after all, something possible beyond all this ? I do not refer to the too frequent effort to-day after what is called "originality," which too often means only eccentricity, though even here there are interesting results sometimes. The Germans aim a great deal at originality, and they are cleverer at it than we are, and evolve interesting things sometimes. Professor Billing's façade for the entrance to the Mannheim Jubilee Exhibition is certainly rather a striking bit of originality, with a dash of tradition thrown in—more suitable, however, to a temporary exhibition building than to anything permanent. But Professor Messel's Wertheim warehouse at Berlin is a piece of originality which can hardly be considered altogether a failure or a mere oddity. Wertheim's is, I believe, a sort of Whiteley's of Berlin ; I think we should be rather glad if we could find our Whiteley's housed in so picturesque a manner. But I am thinking of something higher than this ; of the possibility, when a worthy occasion arises, of an architectural idealism which should create something like the realisation of a vision, independent of accepted forms ; something in which the abstract qualities of great architecture could be displayed ; effects arising from light and shadow, from height and depth, from contrasts of gloom and gladness, owing nothing to the details which can be got from books and from measuring up existing buildings. It might be possible, were it not that we are all in such a hurry now, and obliged to be in such a hurry ; all of us, whether we will or no, infected with what Matthew Arnold calls

This strange disease of modern life,  
With its sick hurry, its divided aims.

Yet there are actually needs and conditions in modern life which in themselves suggest something outside of the usual tradition. Professor Pite, for instance, has suggested a "Tower of Healing," a conception springing out of human needs, practical in that sense, but out of which a great architectural poem might be evolved. To come to smaller things, might there not be more attempt to put some real poetry into the architecture of the ordinary dwelling ? What does Mr. Solness say in that play of Ibsen's which is rather absurdly translated "The Master Builder" ("The Architect" it should be ; the Norwegian "Bygmester" is the same as the German "Baumeister"). Mr. Solness is told about the young couple who want a villa built out at Løvstrand. "They must wait ; I am not clear about the plans yet." "They were very anxious to have the drawings at once." "Yes, of course ; so they all are." "They say they are longing to get into a house of their own." "Yes, yes, we know all that. And so they are content to take whatever's offered to them. They get a roof over their head and an address, but nothing to call a home. No, thank you. In that case let them apply to someone else." "Are you prepared to give up the commission ?" "Yes, yes ; devil take it, if that's to be the way of it ! Rather that than build away at random."

There is something rather suggestive in that ; I was reminded of it, one day, some years ago, in looking round the architectural room at the Royal Academy, and coming on a coloured drawing of a small kind of alcove or shrine in the interior of a new dwelling-house, beautifully decorated, and with a frieze round it inscribed with the lines of Rossetti :—

We two will stand beside that shrine,  
Oeculi, withheld, untrod,  
Whose lamps are stirred continually  
With prayer sent up to God.

There was a feeling that here, at all events, one had got above the atmosphere of the semi-detached villa, for the interior harmonised with the words. We do not attempt that kind of poetic view of the habitation much ; but, then, like Mr. Solness, we are troubled by people

who are "very anxious to have the drawings at once," and perhaps do not themselves care much about the poetry. But I cannot help thinking that the Germans are setting us an example in this respect. Of course there is a good deal of hideous eccentricity in their



FIG. 10.—APARTMENT HOUSE, CHARLOTTENBURG (HEINRICH GROSSEN).  
From the *Berliner Architekturwelt*.

modern work and their *art nouveau*; but it is not all like that, and it does sometimes seem to me that the German architects are the only ones, at present, who are really striving after an abstract poetry of architecture in buildings for everyday purposes. I take one or two things

picked out of a recent number of the *Berliner Architekturwelt*. This (fig. 10) is one of the entrances to an apartment house—a house in flats, at Charlottenburg. Herr Gessner is the architect. Now that impresses me as something quite distinct from the commonplaces of street architecture. The other entrance is still better. Again, Herr Fröhlich's design for a crematorium (fig. 11) for Zurich—only a competition design, I believe—has a certain fitting solemnity about it which you would never find, for example, in a French design for a crematorium, with its *Ecole des Beaux-Arts* traditions. Tradition has a hand in this, too; but it is tradition modified by a special poetry of feeling; and that you do find, it seems to me, more often among the designs of German architects than elsewhere at present.

And in regard to greater buildings than these, it is surely well to keep before our minds the possibility of an architectural ideal untrammelled by conventions and precedents. Circumstances—the hurry of life, the demand for rapid, and, alas! economical building, the clients who “are anxious to have the plans as soon as possible,” and many other adverse influences may prevent our ever realising an ideal of this kind; yet it is well to keep the possibility of it in one's mind: like Matthew Arnold's Scholar-Gipsy—

Still waiting for the spark from heaven to fall.



FIG. 11.—DESIGN FOR CREMATORIUM, ZURICH (HERR FRÖHLICH, M.).  
From the *Berliner Architekturwelt*.

## DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

SIR ASTON WEBB, R.A., rising at the instance of the President, said he had come to the meeting quite unprepared to speak on so large a subject as that before them. He could, however, certainly say that they had all immensely enjoyed Mr. Statham's Paper, for it was really an ideal Paper, a poetical Paper, and one which lifted them for a moment out of the drudgery and difficulties of their ordinary every-day life. He, personally, had come to the meeting with rather different feelings, for some months ago he had seen quite another subject\* put down for that evening, and he had made a note of it, thinking it would be his duty to come, out of respect to the Institute. That subject, however, had been changed, and one more congenial, though possibly less provocative of discussion, had been selected. One thing he liked about the Paper was the intermingling of ancient buildings with modern ones in the illustrations. They were so accustomed to hear that everything that was old was good, and that everything that was new was bad, that it was delightful to find that modern buildings could be thrown on to the screen alternately with the old without causing any feeling of shame. The subject Mr. Statham had dealt with was too wide a one for them to discuss at a moment's notice. As regards tradition, they were always being told that they ought to follow tradition; and in the same breath that they had no tradition to follow. It seemed to be thought that the tradition they should follow should be some ancient one—Greek or Roman. What he imagined they should strive to get on to again was some living tradition. To go on copying and reproducing old things was not tradition—it was merely reproduction. All the problems the ancients had to deal with they solved after their own manner, and the result was uncommonly good. We could not do better work than they had done, but we had got our modern problems to-day, and we had to settle them on our own lines, not on the lines of the ancients or medievals. He quite agreed that, so far as tradition went, the more we worked together and tried to solve the problems of the day the more likely we should arrive at a satisfactory result. He did not, of course, agree that we had entirely lost tradition. He had been lately rather surprised to find that his father was born before the nineteenth century. He had a very keen idea that his grandfather must have been born while Chambers was living. Chambers followed on a tradition which Wren and

Inigo Jones had made distinctly English, and therefore if we could carry on from those times we were not so far behind. We were apt to think a hundred years a very long time; a hundred years were nothing at all in architecture, and the tendency of the young generation was to take up the tradition of the English Renaissance as it was carried out by Chambers, and through the Georges, which showed that we had not lost it. It was true that there was a great interruption when the Gothic style was interpolated, and some years ago they all thought that that was the only style; but they now saw that that was not the only thing, and because they had tried other things they had not lost the tradition of the English steady, quiet, solid architecture that was carried out in earlier times. With regard to character, the principal point in carrying out tradition, when they made it modern, was the character they put into it. They took up some particular manner that had been worked at, and individually they put some special character into it. It did not matter what style they were living in: they could show that character. Bodley in his work, which they all admired so much, followed the mediæval tradition very closely, and yet he put a character into it entirely his own; and although he seemed to catch the spirit of Decorated work, it never was Decorated work of the fifteenth century, but Bodley's of the nineteenth. So also with Mr. Belcher's work on classical lines; that work departed entirely from the strict classical lines, and was Belcher entirely. That was the sort of character they should seek to get into their buildings, following on some recognised plan. Professor Lethaby, in his recent address to students at the Institute, had suggested that young men should meet together and endeavour among themselves to take up some manner, and carry through their work in that manner, and try each of them to improve upon it. Mr. Lewis Day, at the Association a few days ago, said that they ought to take up some building of recognised merit and try to improve upon it. They ought to be able to take up each other's buildings and improve on them; their young men should work with real enthusiasm and without the spirit of being afraid to copy. He had been asked the other day what he thought of copyright, and how it was we had not got copyright in architectural designs in England. His reply was that he thought nothing of copyright; he should be ashamed as an architect to consider such a thing as copyright. He thought that such a man as Mr. Norman Shaw should feel the greatest pride that his work was being copied—

\* "The Designs for the London County Hall."

if they could call it copying—and that he had influenced almost every man in his generation in the style of his work. It would be monstrous for Mr. Norman Shaw's work to be copyrighted. He had never spoken to him about it, but he did not imagine for one moment that he would wish it; it would be a stoppage of the very feeling that Mr. Statham had suggested, if anything great should ever come about so far as architecture was concerned. If he might venture to say so, he was very pleased that Mr. Statham seemed to take a cheerful view of things. We were often reminded that we all, like sheep, had gone astray, and had followed every one his own way, and there was no good in us at all. If that was the feeling they were going to encourage about their own and each other's work they might be sure that the public and the country would take them at their own valuation. On the contrary, they ought to have some enthusiasm in their own work, and certainly more for the work of others whom they were proud to live with and whose company they enjoyed. Architecture would then be a living thing, and they, its exponents, would advance farther and farther in it. It was in that spirit that he specially desired to propose a vote of thanks to Mr. Statham for his Paper.

MR. JOHN SLATER [F.] said that it gave him the greatest pleasure to second the vote of thanks. He had always felt that when Mr. Statham devoted his energies to journalism the country had lost one who might have become a very great architect. Mr. Statham's knowledge of architecture was very considerable indeed, and he had shown them that his love and appreciation of it was not in the least degree *borné*, but very cosmopolitan. He was able to appreciate good architecture, whether old or new, in whatever style it was conceived, and whatever the characteristics of it might be. He had been much struck by his remarks on the character of architecture, and he thoroughly agreed with him as to what character is. He agreed, too, that the modern German architect had a feeling for the picturesqueness and the linking together of form with modern necessities which no other architects possessed. He should have liked Mr. Statham to bring within his purview some American specimens of modern architecture, because there would be found the association between tradition—exemplified in many cases by the training which American architects received in the *École des Beaux-Arts* in Paris—and modern requirements to an exceptional extent. He did not think that anyone who had seen the work of the late architect Richardson in America could fail to appreciate the immense effect which the combination in him of acquiescence with tradition, and also a desire to accommodate absolutely new conditions, had upon his architecture.

THE PRESIDENT said that they should all

join in a very hearty vote of thanks to Mr. Statham for his learned and encouraging Paper.

MR. STATHAM, in responding, said he entirely agreed with Sir Aston Webb in regard to Bodley's architecture, which was Gothic, but which was, nevertheless, distinctly Bodley. He was not sure that he agreed with him about Chambers and tradition; it was rather a curious comment upon it that the design chosen for the County Hall was what he should call distinctly a Chambers's design, and that it was influenced very largely by Somerset House. So far that bore out what Sir Aston Webb said. With regard to Mr. Slater's reference to American architects, he had a very high opinion of modern American architects, but he was inclined to think they were too French. He had always wished that the Americans had tried to work more in their own spirit and their own national feeling, instead of rushing to the *École des Beaux-Arts* and adopting the *École des Beaux-Arts* methods completely; because they adopted those methods so completely that they would not put a scale upon their drawings because the French architects never did; and when American architects sent in for a competition they called it an *envoi* because the French call it an *envoi*. That, he thought, was rather absurd. The Americans had learned a great deal from the *École des Beaux-Arts*, but they had rather allowed it to destroy the chance of their making a great American style of their own which they might make. He looked forward to the time when the Americans should shake themselves a little free from the *École des Beaux-Arts* and do something which expressed their own nationality and their own character a little more. Sir Aston Webb had referred to the possible subject that the present meeting was to have been devoted to, and he should like to explain that his Paper that evening was not exactly put in as a stop-gap for something else. The Council had done him the honour some months ago to ask him to read a Paper on the County Hall Competition, and he assented because he did not like to refuse anything the Council asked him to do; but the more he thought of it the more it seemed almost impossible to do it without its becoming too personal a thing, and after consultation with the President the Council came to the same conclusion. He therefore offered this Paper on an abstract subject that he had often thought a great deal about, instead of offering one which might lead to difficulty in treating of this or that person's design. He thought himself that it was wiser. They were all very much excited about the County Hall Competition, and no doubt if a Paper on that subject had been read they should have had a very full meeting, but they might also have had rather a quarrelsome one; whereas they had been devoting themselves that evening to things about which, if they differed, they need not quarrel. He had only to thank the Meeting for its very kind attention.



9 CONDUIT STREET, LONDON, W., 25th April 1908

## CHRONICLE.

### The Architectural Association.

At the A.A. Annual Dinner held in the Georgian Hall of the Gaiety Restaurant on the 9th inst. the President, Mr. Walter Cave, made the interesting announcement that the Association is now free of its building debt. The Association is to be very heartily congratulated. That so large a sum as 10,000*l.*—to be exact, 10,826*l.*—should have been raised within the space of six or seven years is a record to be proud of: the fact speaks eloquently for the vigour and steady perseverance of the Association, and also, too, for the vitality and public spirit of a profession which is by no means a lucrative one. This happy result has been brought about entirely by members' own efforts, aided by the generosity of their friends. One recalls with pleasure Mrs. Arthur Cates's munificent gift of 1,000*l.* towards liquidating the debt. The Association has now a home worthy of its aspirations; and free as it is from all financial anxieties, the highest anticipations for its future progress may be indulged in. Mr. Cave mentioned that the Association had recently been offered by an anonymous benefactor a Travelling Studentship of the value of 120*l.* per annum, the holder to be required to spend six months in Italy studying in connection with the British School at Rome.

### The New County Hall.

At last week's meeting of the London County Council the Establishment Committee brought forward the following recommendations: That they should be authorised to proceed with the preliminary arrangements for the erection of the new County Hall on the Belvedere Road site, Lambeth, excluding the area now occupied by Holloway Brothers; that the estimate of expenditure on capital account of £13,000, submitted by the Finance Committee in respect of the cost of preparing working drawings, specification, and quantities for the first section of the superstructure of the new County Hall, and in respect of the cost of compiling (1) a detailed estimate of the cost of the first section of the superstructure, and

(2) an approximate estimate of the cost of the remaining part of the superstructure on the site excluding the area of the premises now occupied by Holloway Brothers, be approved; that expenditure on capital account not exceeding £13,000 be sanctioned, being £8,000 for advances to Mr. Ralph Knott in respect of services indicated in clause 8 of the instructions to competing architects, £3,000 for fees for quantity surveyor, £1,000 for measuring surveyor for detailed estimates and adjustments, and £1,000 for drawings, cartoons, sketches, models, &c.; that, subject to any modification by the Establishment Committee to meet the exigencies of the work of the Council, the schedule submitted by the Establishment Committee on April 7, 1908, be approved as the basis of the accommodation to be provided; that the selected architect and the Council's official architect forthwith do proceed with the preparation of working drawings and specification and do obtain quantities for the first section of the superstructure of the new County Hall, and also a detailed estimate of the cost of the first section of the superstructure, and an approximate estimate of the remaining part of the superstructure on the site excluding the area of the premises now occupied by Holloway Brothers.

These recommendations relate to an amended scheme which has now been adopted by the Committee, by which the total expenditure on the new hall will be reduced from £1,706,000, as originally estimated, to £1,412,000. Under the amended scheme it is not proposed immediately to deal with a portion of the site at the northern end, about 1·22 acres in extent, at present occupied by Messrs. Holloway Brothers. The Council is bound by agreement to purchase this land, but it is not intended to do so until the existing leases fall in. The site will be kept for possible necessary extensions of the hall in the future.

Mr. R. C. Norman, Chairman of the Committee, in moving the adoption of the recommendations, stated that the Committee would bring up at the earliest possible moment an amended elevation and a drawing in colours, which would show the Council exactly what the Committee contemplated in the way of design.

An amendment to the effect that, in view of the present financial position of the Council and the uncertainty of London government in the future, the Council was not warranted in placing a further charge on the rates by the building of a new County Hall on the Belvedere Road site was negated by a large majority, and the recommendations were adopted, with an addendum making it clear that no building operations would be begun until the Council had approved of the elevation.

### Crosby Hall.

The Local Government Records and Museums Committee of the London County Council have recently been considering whether they could ad-

vantageously take any steps in the matter of the re-erection upon another site of Crosby Hall, the fabric of which has been carefully preserved and stored by the owners, the Chartered Bank of India, Australia, and China. The Committee now report that they have been in communication with the directors of the bank, who state that they are prepared to hand over the whole of the fabric of the banqueting hall to the County Council or the City Corporation.

The Committee have had brought to their notice a scheme under which it is desired to use the fabric of Crosby Hall in connection with More House, Chelsea, a residential institution for University students. More House stands on a portion of the land situated on the Chelsea Embankment which the Council, on 1st November 1898, leased to the Town and Gown Association of Edinburgh for a term of eighty years, the present ground rent being £400 a year. A large and influential committee has recently been constituted, and it is intended to form an association, to be known as the University and City Association of London, with the object of acquiring the interest of the Town and Gown Association, a company formed for similar educational and academic objects, and to develop the site for college purposes. More House is the first house of the proposed University Halls, and it is proposed to extend the building upon the adjoining site at present in hand. There is every reason to hope that the institution will be recognised by the University of London. The promoters desire to obtain the fabric of Crosby Hall and to re-erect it in connection with the scheme. It is proposed that the County Council shall accept the offer made to it by the bank; that the association shall bear the expense of re-erecting the hall; that the Council shall retain the ownership of the building when re-erected; and that the hall shall be used as the college hall, and also for public purposes, such as University extension and other lectures, free musical evenings, &c., and shall be accessible to the public at all reasonable times.

With regard to the rebuilding scheme, it is proposed to acquire for the purpose some additional land adjoining that leased to the Town and Gown Association. The great advantage of the scheme is that it will nearly reproduce the original conditions of Crosby Hall, as it admits of the construction of a quadrangle practically corresponding to that of the old Crosby Place. The promoters propose that certain of their number should be appointed trustees to acquire the freehold of the additional land needed, and to convey the site and the building to be erected thereon to the Council. It is understood that the scheme is being substantially supported, one person alone having promised £5,000 towards the cost of re-erecting the hall as suggested, and a further £5,000 towards the general scheme. It is intended to issue appeals for further subscrip-

tions for this purpose and for an endowment fund for the maintenance of the hall. Should the academic body at any time come to an end, the hall would remain the absolute property of the County Council, to which would be transferred the endowment fund.

More House derives its name from the fact that it stood on the site of the garden attached to the residence of Sir Thomas More, and it is therefore peculiarly appropriate that Crosby Hall should be re-erected as proposed, seeing that More resided at Crosby Place just before his removal to Chelsea.

In considering the scheme the County Council Committee have kept in mind the essential condition upon which they thought the Council would insist—viz. that the public should have access to the hall at reasonable times, and that no charge on the county rate should be involved in respect of the acquisition, erection, and maintenance of the building.

#### The Proposed Calvin Monument at Geneva.

The association organised at Geneva in 1906 for the purpose of preparing the forthcoming celebration of the 400th anniversary of Calvin has decided to mark that event by the erection, in honour of Calvin's work, of a monument, planned on broad historical lines, recalling the names and influence of the Reformers in all parts of the world. Artists of all nationalities are invited to take part in the competition which has just been opened. The drafts sent in will be examined and classified by a jury composed of the following persons, who are to dispose of 30,000*fr.* in prizes:—MM. A. Bartholomé, Paris; Ch. Girault, membre de l'Institut, Paris; Professor Tunnion, Berlin; Professor Bruno Schmitz, Berlin; George J. Fraumpton, R.A., London (nominated by the President R.I.B.A.); Professor Gull, of the Polytechnicum, Zurich; Alfred Cartier, administrator of the Musées de la Ville de Genève; Horace de Saussure, delegate of the Fédération des Sociétés artistiques de Genève; the Chairman of the Association du Monument de la Réformation, Geneva. The drafts and models must be delivered on or before 15th September 1908. The programme will be sent on request addressed to the Secrétariat de l'Association du Monument de la Réformation, 56 Rue du Stand, Geneva, Switzerland.

#### The Baptistery of Florence.

A correspondent of *The Times*, writing from Florence, states that, after more than twenty years of restoration, the cupola of the famous Baptistery of Florence has at last been freed from its encumbering scaffolding, with the result that once more its component masses of mosaic have been made visible to the public. The roof of the Florentine Baptistery has been concealed for so long in the process of renovation that comparatively few persons have been privileged to enjoy

the magnificent spectacle of the great cupola with its glittering mosaics in gold and colours illuminated by the noontide sunshine. These celebrated mosaics, which are the joint work of a Greek named Apollonios and of numerous Florentine artists of the fourteenth and fifteenth centuries, consist principally of small scenes representing the Rewards of the Just and the Punishment of the Unjust, amongst the latter being conspicuous the grotesque form of Dante's Lucifer chewing in his jaws the soul of the sinner "cho ha maggior pena." Above the altar appears the colossal figure of Christ in glory, a singularly noble and majestic conception. With the exception of the arch of the tribune behind the altar, where the mosaics (of an earlier date than those in the cupola) are at present being carefully restored, the interior of this unique temple, once the cathedral church of Florence, has at last been cleared from the scaffolding and screens that have disfigured its ornaments and proportions for so many years, and the general effect of the Baptistery on a sunny morning is now beautiful in the extreme.

#### The late Charles Frederick Reeks [F.R.S.]

On the 8th April passed away, at the age of eighty six, the oldest subscribing member of the Institute, Mr. Charles Frederick Reeks, who was admitted as Associate in 1848 and proceeded to the Fellowship in 1860. Mr. Reeks spent two years as a pupil in the office of Sir James Pennethorne, and a like period in the office of Thos. Cubitt, then engaged in his work at Brighton. In 1846 he went to Italy. There he was the contemporary and intimate of Charles and Edward Barry and Albert Humbert. On his return to England in 1848 he entered into partnership with the latter, and carried out the buildings on the Crown Estate at Hastings—Robertson Terrace, Chichester Parade, and the neighbouring streets. The outbreak of the Crimean War caused building operations to cease, and he accepted the offer of the Receivership of Crown Estates at the Office of Works from Mr. Trenham Phillips, then Chief Secretary, and in that capacity designed at a later period the mansoleums of Frogmore and Sandringham House. Mr. Reeks was allowed to carry on private practice, and he designed and carried out the lodges of Windsor Park, the church at Iver Heath, and other buildings in the neighbourhood of Windsor. The death of Sir James Pennethorne and the retirement of Sir Henry Hunt led the Office of Works to utilise their Receiver's architectural knowledge, and from 1870 to his retirement in 1899 he was largely occupied in the development of the Crown Estate at Battersea. To the last Mr. Reeks retained his enthusiasm for architecture, and at the age of eighty-two he went alone to study the architectural monuments of Spain and Portugal. Mr. Reeks was married in 1855, and leaves two sons—the present Vicar of Monmouth and Major Reeks (late of the 45th), at whose house at Epsom he died.

## REVIEWS.

### MEDIAEVAL CASTLES OF GERMANY.

*Deutsche Burgen.*

*Die Grundlagen der Erhaltung und Wiederherstellung Deutschen Burgen.*

*Ueber Verfall, Erhaltung und Wiederherstellung von Baudenkmälern.*

*Die Burgwart.*

Herr Bodo Ebhardt, the well-known architect and authority on the mediæval castles of Germany, has generously presented to the Institute Library some important literature on this subject. For the past twenty years, in spite of a large and increasing practice, Herr Ebhardt has spent his leisure moments in travelling from castle to castle, collecting every available record of these monuments of past greatness. The task is a stupendous one, and not to be accomplished by a single man, for these castles number over five thousand in every stage of preservation, from the shapeless ruin to the still inhabited dwelling.

Some results of these journeys are to be seen in his *Deutsche Burgen*, a weighty volume, handsomely bound in vellum, which gives the life-history of some twenty-five castles. The letterpress is profusely illustrated by photographs, sketches, and measured drawings of the buildings in their present condition, by reproductions of ancient engravings, and by imaginary restorations from the author's brush. Some of these studies are delightful in their colouring, and reveal the artist as clearly as the archaeologist. The author is an historian as well, and this magnificent work is a brilliant witness to his many-sided ability. His object has been to awaken interest in the history of the nation, and thus to promote the care of its monuments. Hence the claims of the work are great, for it was a question of mastering the history of the art, culture, and politics of the land, and explaining technical problems, especially those of an architectural nature. Laborious research amongst ancient records and the piecing together of fragmentary evidence have been the only methods of writing the history of these robber fastnesses, for no direct mention is ever made in mediæval documents of the castles themselves, and the professional man alone can judge what labour and trouble often lie behind a few short sentences. The matter is systematically arranged in a thoroughly practical form, for it is meant to be a guide and help to others who wish to restore or protect ancient monuments, but who have not the same knowledge and experience on which to base their work. The pages give a short but faithful representation of what actually exists of the building under discussion, together with any contemporary information that could be culled concerning the aim and purpose of its different portions. This is followed by the history of past owners and occupiers, for it is only by conjuring up the customs, life, and civilisation of the period in question that one can

hope to sympathise with the mental attitude of past ages. The feeling is gradually spreading in Germany that these glorious remains should not be allowed to moulder and disappear, but should be adapted to the requirements of modern civilisation. This work is therefore intended to be a collection of facts and links which may assist in supplying deficiencies in other more obscure cases.

The methods by which Herr Ebhardt works are clearly set forth in two pamphlets he has presented—one on the principles underlying the preservation and restoration of German castles, and one on the decay, preservation, and restoration of architectural monuments. During his many years of travel the author felt keenly the want of some short, simple rules which would serve as general guides in dealing with ruins, and the thirteen leading principles which he lays down are practical and to the point. He advocates: no temporary measures; no obvious patching up (*i.e.* visible ties, clamps, &c.); no deliberate alteration of old conditions (*i.e.* extra staircases and platforms for the convenience of tourists); new material to be artificially coloured so as to avoid glaring contrasts, and all restorations to be dated so that new work may readily be distinguished from old. He adds that dead stones can only speak again when handled by an artist who couples with vast historical and professional knowledge that power of self-effacement which can only exist with a boundless love of his art.

But it is not enough to have ruins, and artists ready and able to restore them. The two must be brought into contact with each other; and with this view a Society was founded in 1899 for the preservation of German castles. Much interesting reading is provided by its official organ, *Die Burgwart*, edited by Herr Bodo Ebhardt, who has presented three volumes to the Library. The journal appears monthly, and contains short historical descriptions of any castles of interest, illustrated by measured drawings, photographs, and sketches. It gives lists of castles in danger of being demolished, sold, or otherwise threatened with ruin, and suggests what steps should be taken to avert the danger. It criticises works of restoration in course of execution, reviews books relating to the subject, and collects all relevant matter likely to interest the ever-widening circle of its readers; for castle ruins are much beloved by Germans of all classes, and it only needs the organisation which is gradually being introduced in order to direct into suitable channels the efforts made for their preservation.

ETHEL CHARLES.

#### SANDFORD MANOR.

*Sandford Manor, Fulham. By W. Arthur Webb. Published by the Committee for the Survey of the Memorials of Greater London, Parliament Chambers, S.W.*

The eighth publication of the *London Survey* is not a volume of very considerable proportions, but

it is welcome as an indication that the valuable work of the Survey Committee is being resumed after three years of inactivity, and also on its own account as a record of a country home in London.

The broad acres of Sandford Manor are now devoted to prosaic uses, but the manor house and its famous mulberry tree remain. They stand in a hollow between a railway line, a gas-works, the King's Road, and a host of terrace properties, which uncongenial surroundings at once depreciate their charm and accentuate their traditional significance. Mr. W. Arthur Webb is to be congratulated on the concise and sympathetic manner in which he has treated the remarkable history and associations of the building.

The monograph is adequately illustrated by nine plates, in the preparation of which Mr. Webb has had the assistance of Mr. Lovell, the new secretary of the Committee, and others; and it will be instructive to even the youngest architect to study the measured drawings in juxtaposition to the sketches and photographs.

J. NIXON HORSFIELD [4].

#### CEFALÙ CATHEDRAL, SICILY.

To the Editor JOURNAL R.I.B.A.,—

SIR,—Now that I have had an opportunity of reading the remarks made by the various speakers in the discussion on my lecture given at the Institute on the 30th March, I feel compelled to ask you to be so good as to afford me an opportunity of more fully replying than was possible at the close of the meeting.

The chief feature that I tried to emphasise in my Paper was that at Cefalù we find the earliest instance of the pointed arch being used by the Normans as a distinct style, and that the Normans adopted this feature of the pointed arch from the Saracens, who habitually employed it in Sicily before the advent of the Normans. To this view Mr. Seth-Smith observed as follows:—"Had Mr. Hubbard gone no further than to declare, as he does, that the Norman Gothic pointed arch was derived from the Saracens through the Norman occupation of Sicily, we might have found it difficult to prove the contrary; but if, as he argues, the pointed arch is the sign-manual of Gothic, then the Gothic style is Saracenic, and a great deal of writing and teaching will be undone."

In my Paper I remarked that if the pointed arch was the right sign-manual of Gothic as the round arch was the right sign-manual of Romanesque, then Cefalù appeared to be the first building to mark that distinction. By this I did not mean that Gothic architecture was Saracenic. All I attempted to show was that at Cefalù the Normans adopted the pointed arch of the Saracens, and it certainly was not my intention that my words should mean anything more.

Mr. Seth-Smith, remarking as to the origin of the Gothic pointed arch, referred to Sir George Gilbert Scott's theory of the development of the Gothic out of Romanesque forms by Normans in France. To this I can only say that there may have been a separate inspiration; but I think there can be no doubt that at Cefalù the development had actually taken place, owing to the Saracenic influence, before the Normans had evolved the development in France. I think there can be no question as to the dates, and that Cefalù appears to be distinctly earlier than any French example.

On the question of the Roman-cross plan, I possibly may not have made myself sufficiently clear. I suggested that Cefalù was the earliest church in Sicily to be designed on the plan of the Latin cross; I certainly did not suggest that it was not common in the Île de France. All I did was to refer to the Latin-cross plan of Cefalù in support of my theory that the plan itself indicated a Norman origin.

I hope Mr. Seth-Smith will allow me to correct an error when he attributes to Cefalù a dome over the crossing of the nave and transepts. This eastern feature does not exist at the crossing of the nave and transepts, nor are there any signs of pendentives at the angles showing that a dome had been contemplated.

Mr. Seth-Smith enumerates many features which I quoted as showing a Norman origin, and the fact that the chancel and south transepts are vaulted may prove, Mr. Seth-Smith says, that a Norman architect was employed. The surprising feature, however, is that the vaulting of the Cefalù chancel is quadripartite, ribbed, and pointed. I know of no earlier example.

I quite agree with Mr. Seth-Smith that many of the features indicate a North Italian Romanesque influence; but this influence when transformed into pointed work at once assumes a more Gothic feeling. This Gothic feeling appears to me to show itself at Cefalù before it appeared elsewhere. I am very grateful to Mr. Seth-Smith for his valuable criticisms and also for having so graciously proposed his vote of thanks.

In traversing the remarks made during the discussion I am referring principally to the objections raised to the theory I was advocating. Mr. Edmund Kirby and Mr. Matt. Garbutt both advanced confirmation but no adverse evidence. Mr. Phené Spiers, in the true spirit of the archæologist, singled out the fact that at Cefalù the nave arches were in two orders, with a very slight projection between them. This slight projection of the upper one is characteristic of Sicilian Saracenic work, and not of Norman Romanesque, where the upper order was always brought out in advance of the lower one by the whole depth of the order. This, I think, is quite true so far as Cefalù is concerned, but, on the other hand, in the crypt of Canterbury (c. 1100) highly stilted pointed arches exist with two orders, the upper one having only a slight

projection. These stilted pointed arches at Canterbury bear a strong likeness to the Cefalù arches.

Mr. Spiers quotes earlier examples of the pointed arch in Syria, and refers to the pointed arch used in the domes of Périgord and the Charente. I fear, again, that I may not have made myself sufficiently clear. Pointed arches of an earlier date than Cefalù were used, I fancy, also in domes in Sicily; but domes are not characteristic of Norman or Gothic work, and pointed work when adopted in a style alien to Gothic falls outside my review. I am, however, visiting Saint-Front of Périgueux, and perhaps may return to this question later.

As to the Syrian churches there is, I believe, considerable doubt as to the dates. Fergusson, I think, considers that they are not likely to have been built before 1180.

Mr. Spiers observed that Normandy was one of the last countries to adopt the pointed arch. This, however, does not seem to me to alter what I believe to be the fact, that the Norman conquerors of Sicily were the first to adopt it.

Mr. Hare thought that most of the masons employed in the building must have been Saracens, it being hardly likely that Normans would have been imported from such a distance. It is an interesting fact, however, that great bodies of men did travel immense distances in the twelfth century. The crusades to the Holy Land are examples of their wonderful enterprise. At Cefalù masons' marks, in many cases the exact counterpart of those used in England, are to be found throughout the building—inside and out, and from top to bottom. This to my mind, apart from all other points, may perhaps indicate that Normans were very largely, if not exclusively, engaged upon the structure.—Yours obediently,

GEORGE HUBBARD.

## MINUTES. XII.

At the Twelfth General Meeting (Ordinary) of the Session 1907-08, held Monday, 13th April 1908, at 8 p.m.—Present: Mr. Thomas E. Colclutt, *President*, in the Chair; 31 Fellows (including 16 members of the Council), 20 Associates, and visitors—the Minutes of the Meeting held 30th March [p. 364] were taken as read and signed as correct.

The decease was announced of Leopold Eidlitz, *Hon. Corresponding Member* (New York), elected 1898, and Charles Frederlek Reekes, elected *Associate* 1848, *Fellow* 1860.

The following members attending for the first time since their election were formally admitted by the President:—Edward Mansell (Birmingham), *Fellow*, and Peter Kydd Hanton, *Associate*.

A Paper by Mr. H. Heathcote Statham [F.], entitled *A THREEFOLD ASPECT OF ARCHITECTURE: TRADITION—CHARACTER—IDEALISM*, having been read and illustrated by lantern slides, a vote of thanks, proposed by Sir Aston Webb, B.A. [F.], and seconded by Mr. John Slater [F.], was passed to Mr. Statham by acclamation.

The proceedings closed and the Meeting separated at 9.30 p.m.



## REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1907-1908.

Approved and adopted by the Annual General Meeting, Monday, 4th May 1908.

**S**INCE the publication of the last Annual Report the Council have held 17 meetings, of which the Council elected in June last have held 14. The following Committees appointed by the Council have met and reported on the matters referred to them:—Competitions, Prizes and Studentships, Finance, Sessional Papers, Professional Questions, Board of Professional Defence, Board of Examiners, Fellowship Drawings, Charter Revision, Towns Planning, Exhibition of Architecture and Decorative Arts, and Secretaryship.

**Obituary.** The losses by death have been as follows:—*Fellows*: George Frederick Bodley, Frank John Brewer, Julius Alfred Chatwin, John Barnes Colson, George Rackstrow Crickmay, Daniel Robert Dale, Emanuel Lewis Galizia, Walter Graves, Charles Innes, Sir James Knowles, Walter Leek, William Alexander Longmore, George Allen Mansfield, Edward William Mountford, John Salmon Quilter, Charles Frederick Reeks, Walter Wood Robertson, George Saunders, Thomas Turbull, Robert Frank Vullance, Charles Henry Worley. *Associates*: Augustus Eldred Hughes, Frank Garfield Johnson, William Hewson Lees, Francis Edward Morris, Stephen Powlson Rees, Nathaniel James Stanger, John Charles Traylen, Edward Morgan Whitaker, Richard Lloyd Williams. *Hon. Fellow*: The Duke of Devonshire. *Hon. Associates*: Sir Benjamin Baker, James Roger Bramble, Henry Ernest Milner. *Hon. Corr. Members*: Leopold Eidlitz, Hermann Ende, Professor Meldahl, Émile Trélat.

Obituary notices of some of the above have appeared in the JOURNAL.

**Royal Gold Medal.** The Royal Gold Medal was awarded last year to Mr. John Belcher, A.R.A., in recognition of his distinguished services as an architect. Mr. Belcher received the Medal in person at the General Meeting on the 24th June 1907. It has been decided to award the Medal this year to M. Honore Daumet in recognition of his executed works as an architect and for his distinguished services in the cause of architectural education. His Majesty the King has graciously signified his approval of the nomination.

**Membership.** The following tabular statement shows the present subscribing membership of the Institute compared with that at the corresponding periods of the last two years:

Year	Fellows	Associates	Hon. Associates	Total
1906	749	1,177	46	1,972
1907	862	1,254	46	2,162
1908	906	1,288	45	2,239

During the official year since the last Annual General Meeting 81 Fellows have been elected, 70 Associates, and 2 Honorary Associates.

**Examina-  
tions.** The Progressive Examinations were held in June and November 1907. The Preliminary was held in London, Belfast, Birmingham, Bristol, Cardiff, Dublin, Exeter, Glasgow, Leeds, Manchester, Newcastle-on-Tyne, and Nottingham; the Intermediate in London, Bristol, Cardiff, Dublin, Exeter, Leeds, Glasgow, Manchester, and Newcastle-on-Tyne. The Council desire to record their thanks for the valuable services rendered by the Hon. Secretaries and Examination Committees of the various Allied Societies. The Final and Special Examinations were held in London, and Special Examinations for Colonial candidates were held in Toronto and Johannesburg, when 4 Candidates were examined and 2 passed. The results are shown in the following tabulated form:

	Admitted	Exempted	Excluded	Passed	Refused
PRELIMINARY EXAMINATION . . .	370	76	294	216	78
INTERMEDIATE EXAMINATION . . .	331	10	321	149	172
FINAL AND SPECIAL EXAMINATIONS . . .	204	—	204	65	139

The total number of candidates was 905. The number of Probationers now stands at 2,840, and of Students at 864. The Council again have reason to regret that so large a number of Students remain on the list without proceeding to the Final Examination.

The Special Examination for Colonial candidates will be held this year at Johannesburg, Melbourne, and Toronto.

The Ashpitel Prize was awarded to John Clifford Procter, who passed the Final Examination in November 1907.

The Council desire to thank the Board of Examiners for the continuance of their invaluable services.

The Statutory Examinations, qualifying for Candidature as District Surveyor in London, and for Candidature as Building Surveyor under Local Authorities, were held in London in October 1907, when fifteen candidates presented themselves. Certificates of competency to act as District Surveyors in London have been granted to Thomas James Bee [A.], Percy Boothroyd Dannatt [A.], Robert Henry Jewers Mayhew [A.], Henry Blinman Mackenzie [A.], John Douglas Scott [A.], Thomas Percival Tinsley, and Stanley Towse [A.].

**Prizes and  
Studentships.** The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 20th January 1908. At the distribution of Prizes on the 3rd February 1907 a criticism of the work submitted was read by Mr. E. Guy Dawber [F.]. An exhibition of the drawings was held from the 21st January to the 1st February in the Gallery of the Alpine Club, and was visited by 1,611 persons. A selection from the Prize Drawings is now being sent the round of the Allied Societies.

**President's  
"At Homes."** "At Homes" were given by the President on the 25th June 1907, when a special collection of drawings of colour decoration was shown; and on the 27th January 1908, when the premiated drawings in the R.I.B.A. Prize Competitions were on view in the Institute rooms.

**Visit to  
Edinburgh  
and Annual  
Dinner.** From the 4th to the 6th July a gathering of the Institute was held at Edinburgh under the auspices of the Edinburgh Architectural Association. The visit passed off with great success, and was an occasion of much satisfaction and enjoyment to all who took part in it. On the 4th the Lord Provost and Magistrates held a reception in honour of the Institute, and on the two following days visits were made to buildings of historic and architectural interest in and about the neighbourhood under the guidance of prominent members of the Association and others. The principal function of the visit was the Institute Annual Dinner, held on the 5th at the Caledonian Hotel. The Institute was honoured on this occasion with the presence of the Lord Provost, the Lord Justice Clerk, the

Lord Dean of Guild, and other distinguished officials of the Scottish capital. The Council desire to record their appreciation of the kind hospitality extended to the Institute by the Edinburgh Architectural Association, and of the admirable arrangements made for the comfort and enjoyment of the visitors.

At the beginning of the session a committee was appointed with reference to the Local Government Board's Housing and Town Planning Bill then in course of preparation; and also with reference to the general question of town planning. On 3rd December a deputation from the committee waited upon the President of the Local Government Board and urged that some provision should be made in the forthcoming Bill for the formation of advisory committees composed of experts to be consulted in all matters connected with the preparation of town plans and plans for town extension. Subsequently, with a view to furthering the same object, the committee addressed a letter to the President of the Local Government Board. The committee have also approached the London County Council with regard to the constitution of an advisory committee of architects, and have under consideration the general question of the formation of such committees in connection with municipal authorities.

Questions regarding the Workmen's Compensation Act 1906 on various points in which architects are likely to be affected have been submitted to Counsel. The questions and opinions were published in the *JOURNAL*, Vol. XIV. pp. 507, 508.

Counsel's opinion has been obtained on several points affecting architects in relation to the Prevention of Corruption Act 1906. The questions and opinions were published in the current volume of the *JOURNAL*, p. 229.

A new Silver Medal for the Essays and Measured Drawings Competitions has been designed by Mr. George Frampton, R.A. [*H.A.*]. The thanks of the whole Institute are due to Mr. Frampton for the very beautiful work of art he has presented to members.

The Royal Institute took a prominent part in the movement to preserve Crosby Hall from destruction. A donation of one hundred guineas was contributed to the fund. The failure of the efforts to save this interesting monument is deeply regretted by the Council.

The work of the Charter Revision Committee was completed, and the amendments to be embodied in the new Charter and By-laws were discussed and adopted at the Business Meeting of the 2nd December 1907. The draft Charter and By-laws are now in the hands of the Institute's Solicitors, who are preparing them for submission to the Privy Council.

The Institute, at the Business General Meeting of the 2nd December, adopted an alternative proposition of the Charter Revision Committee, that in view of the fact that early application would be made to the Privy Council for the general alteration of Charter and By-laws the closure of the Fellowship resolved upon at the Meeting of the 3rd December 1906 should be deferred until the granting of the new Charter.

The Report of the Joint Committee on Reinforced Concrete was brought before the General Meeting of the 27th May, and adopted at that meeting. The Report, with Appendices by Professor Unwin and Mr. William Dunn, was printed in the *JOURNAL* for 15th June last year.

The First Commissioner of His Majesty's Works having consulted the Institute with reference to the durability of buildings constructed of reinforced concrete and the Local Government Board's proposals to rearrange the rates at which money should be advanced for this class of erection, the Council referred the matter to the Science Committee to consider and report. The valuable report furnished

by this Committee was communicated to the Office of Works, and will be found printed, together with the First Commissioner's courteous acknowledgment, in the JOURNAL for 21st December.

**Architects  
and Local  
Authorities.**

The Council are in communication with the President of the Local Government Board with reference to the proposed issue by the Board of a Form of Agreement to be entered into between Local Authorities and Architects whom they employ.

**New Allied  
Society.**

During the course of the year the Cape Institute of Architects has been admitted to alliance with the R.I.B.A.

**Past  
Presidents'  
Portraits.**

The portrait of Mr. John Belcher, A.R.A., painted by Mr. Frank Dicksee, R.A., is completed, and will be exhibited in the Royal Academy Exhibition this summer.

**Appoint-  
ments.**

Since the issue of the last Annual Report the Council have made the following appointments:—

The Institute Representatives at the Royal Sanitary Institute Congress at Dublin 1907	Mr. Edwin T. Hall and Mr. John Slater.
The Institute Representatives at the Second International Congress on School Hygiene	Mr. Thomas W. Cutler and Mr. J. Osborne Smith.
The Institute Representative at the Letchworth Housing Exhibition	Mr. E. Guy Dawber.
The Institute Representative at the Conference relating to the draft Order on Contracts held at the Local Government Board	Mr. W. H. Atkin Berry.
The Institute Representatives at the Town Planning Conference conducted by the Lord Mayor at the Guildhall	The President, Sir Aston Webb, R.A., Mr. John W. Simpson.
The Institute Representative at the Joint Conference of Road Engineers and Road Users	Mr. John W. Simpson.
The Institute Representative on the Registration Committee of the Plumbers' Company (reappointment)	Mr. H. D. Searles-Wood.
The Institute Representative on the Joint Committee for obtaining a reduced postal rate for the journals of Learned Societies (reappointment)	Mr. Alexander Graham.
The Institute Representative on the Council of the National Trust for Places of Historic Interest or Natural Beauty	Mr. Ernest George.
The Institute Representatives at the Royal Sanitary Institute Congress, Cardiff, July 1908	Mr. J. F. Groves and Mr. Edgar G. C. Down.
The Institute Representatives on proposed Deputation to the President of the Local Government Board with reference to the draft Agreement between Local Authorities and Architects in their employ	Mr. Edwin T. Hall, Mr. Henry T. Hare, Mr. William Flockhart, Mr. J. Alfred Goteh.
The Institute Representatives at the Congress of the Royal Institute of Public Health, Buxton, 1908	Mr. Paul Ogden and Mr. W. Carter Fenton.

**Grants.** Since the last Annual Report the Council have made the following grants:—

Architectural Association, £100.

British School at Athens, £40.

British School at Rome, £21.

Crosby Hall Fund, £105 (since refunded).

International Art Congress, £52. 10s.

Royal Architectural Museum, £21.

Science Standing Committee, £50.

**The Seventh  
International  
Congress of  
Architects.**

The labours of the Executive Committee of the Seventh International Congress of Architects (London 1906) came to an end with the issue a few weeks ago of the volume of Transactions comprising the *Comptes-rendus* of the Congress. The Council note with satisfaction that the balance of the Congress Funds has been sufficient to defray the necessarily heavy costs of printing and issuing this volume, and they take this opportunity of thanking the Committee and congratulating them upon the successful completion of their arduous duties.

The following have been the President's appointments to Assessors during the official year:—

Bethnal Green . . . .	Town Hall . . . . .	Mr. Henry T. Hare.
Cardiff . . . . .	Intermediate School for Boys . . . . .	Mr. Leonard Stokes.
Ealing . . . . .	Hospital . . . . .	Mr. Edwin T. Hall.
Maidenhead . . . . .	Modern School . . . . .	Mr. R. Selden Wornum.
Northampton . . . . .	Public Library . . . . .	Mr. Leonard Stokes.
Old Hill . . . . .	Public Libraries . . . . .	Mr. Henry T. Hare.
Pontypridd . . . . .	Y.M.C.A. Building . . . . .	Mr. R. Selden Wornum.
Stockport . . . . .	High School for Girls . . . . .	Mr. John W. Simpson.
Sunderland . . . . .	Extension to Technical College, &c. . . . .	Mr. A. W. S. Cross.
Tiverton . . . . .	School . . . . .	Mr. C. Harrison Townsend.
Wednesbury . . . . .	Free Library . . . . .	Mr. E. Guy Dawber.

Copies of the "Regulations" have been sent to promoters of the following competitions, together with letters requesting that a copy of the Conditions should be sent for the Institute Library. In cases where the Conditions have been unsatisfactory, letters urging modifications have been sent to the promoters.

Acton: Municipal Buildings.	Eccles: School.	Lowestoft: Secondary School.
Bethnal Green: Town Hall.	Edinburgh: Baptist Church, Halls, &c.	Maidenhead: Modern School.
Bootle: Elementary School.	Ellesmere Port: School.	Newcastle-upon-Tyne: Farm
Bridlington: School.	Evesham: Secondary Schools.	Buildings.
Bristol (Fishponds): School.	Gosport: School.	Northampton: Public Library.
Bristol (Kingsdown): School.	Hereford: School.	Oldbury: Schools.
Bury, Lancs: Council Offices.	Hertford: Municipal Offices.	Oldham: Schools.
Castletownbere: Church.	Heywood: Elementary Schools.	Old Hill: Public Libraries.
Cork: Sanatorium.	Ilford: Emergency Hospital.	Perth: City Hall.
Ealing: Cottage Hospital.	Kingston: Houses.	Pontypridd: Union Offices.
Eastbourne: Hospital Enlargement.	London: Shakespeare Memorial.	Pontypridd: Y.M.C.A. Building.

The Competitions Committee have vetoed Weymouth Pier Pavilion Competition; Acton Council Offices Competition; Pontypridd Union Offices Competition.

**Sessional  
Papers.**

Since the issue of the last Annual Report the following Sessional Papers have been read before the Institute:—

- 27th May 1907: Report of the Joint Committee on Reinforced Concrete.
- 18th Nov. 1907: "The Present Condition of St. Paul's Cathedral," by Mr. Mervyn Macartney, F.S.A. [F.], Surveyor to the Fabric of St. Paul's.
- 16th Dec.: "Means of Escape from Fire in Modern Factories and Warehouse Buildings, with reference to the London Building Acts Amendment Act," by Mr. Wm. Woodward [F.].
- 6th Jan. 1908: "Safety Exits for Theatres and other Places of Entertainment," by Mr. S. Hurst Seager [F.].
- 20th Jan.: "Royal Palaces in Scotland," by Mr. W. T. Oldrieve, F.S.A. Scot. [F.].
- 17th Feb.: "Foundations: the Use of Divers and the Grouting Machine," by Mr. Francis Fox, M.Inst.C.E.
- 16th March: "A Modern Asylum: Bangour Village, near Edinburgh," by Mr. Hippolyte J. Blanc, R.S.A. [F.].
- 30th March: "The Cathedral Church of Cefalù, Sicily," by Mr. George Hubbard, F.S.A.
- 18th April: "A Threefold Aspect of Architecture: Tradition—Character—Idealism," by Mr. H. Heathcote Statham [F.].

On the occasion of the Presentation of Prizes at the General Meeting of the 3rd February an Address to Students on "The Theory of Greek Architecture" was delivered by Professor W. R. Lethaby [F.].

**Finance.** The Council have the pleasure to report the continued financial prosperity of the Institute, and to point to the balance of £2,084. 13s. 6d. of income over expenditure.

The sum of £4,000 has been invested, as against £3,000 last year. The invested capital is now £25,796. The statement of Income and Expenditure and the Balance Sheet for the year ending 31st December 1907 and the estimate of Income and Expenditure for the current year are appended to this Report (pp. 399 *seq.*).

**Mr. Locke's Resignation.** The Council cannot close their Annual Report without reference to the resignation of their late Secretary, Mr. W. J. Locke, whose excellent services in the interests of the Institute will long be remembered and appreciated by all the members. Eleven years have elapsed since his appointment was recorded, and during the whole of that period his energy was conspicuous in furthering the high aims for which the Institute was founded. The vacant Secretaryship has been filled by the appointment of Mr. Ian MacAlister, B.A.Oxon.

#### REPORT OF THE ART STANDING COMMITTEE.

The Committee have held eight meetings since the last Report was issued.

Mr. John W. Simpson was again elected as Chairman, Mr. Henry T. Hare as Vice-Chairman, and Messrs. J. S. Gibson and W. A. Forsyth as Hon. Secretaries. Numerous matters of public interest, of which the following are the more important, have been dealt with by the Committee:—

Beverley Minster ;	Post Office and other Buildings at South Kensington ;
Crosby Hall ;	Stewkley Church ;
Waterloo Bridge ;	Illuminated and other Advertisements.

The suggestion of the Committee that the Council should appoint a Special Committee to deal with the subject of the planning of town extensions and improvements has been adopted by the Council, and such a Committee was duly constituted with Sir Aston Webb, R.A., as Chairman, and Mr. John W. Simpson as Hon. Secretary.

Attention was drawn to certain works in progress at Beverley Minster, comprising, amongst other operations, the filling of the ancient niches of the west front with figures and the reworking of the stone carving around the west doorway. It is the practice of the Committee in such cases to approach the architects employed ; but in these works no professional assistance is being rendered, and the Committee therefore made an emphatic protest in the Yorkshire Press against the undesirable procedure for which the Vicar is responsible.

The Committee share the general regret at the fate of Crosby Hall. The subject was very fully discussed and proposals were made to the Council, who dealt directly with the matter.

The scheme approved by Parliament for the extension of the London County Council Tramways has necessitated structural alteration to the north-west abutment of Waterloo Bridge in order to form the sub-way connection between the northern and Embankment systems which passes below Lancaster Place and opens on to the Embankment at the west side of the first arch of the bridge. The staircase at this point had to be removed and the fine treatment of the convex retaining wings considerably altered.

Upon this work being brought to the notice of the Art Committee they approached the London County Council in order to ascertain the precise intended treatment of the architectural features of the bridge. Their request for information was readily acceded to, and their suggestion that in place of forming a single arch for the double line of rails it would be preferable to retain the existing staircase arch for the down line, and to couple to it a second arch for the up traffic, met with the approval of the Tramways Committee. The

Superintending Architect and the Engineers of the Tramways and Bridges Departments respectively gave the most valuable assistance; and the Committee wish to place on record their obligation to these officials for the time and trouble they spent in order to obtain the best architectural result. Complete working drawings were prepared by the Art Committee and by the officials above mentioned (whose scheme had in great measure to be recast), and numerous conferences were held at Spring Gardens. It being necessary to obtain the sanction of the Duchy of Lancaster to the proposed variation of their agreement with the London County Council, the Superintending Architect and the Chairman of the Art Committee proceeded to submit the drawings to the Chancellor of the Duchy, who, however, refused his approval. The summer vacation being then at hand, and the County Council being compelled to proceed with the work under heavy penalties, the Committee were reluctantly compelled to relinquish their efforts.

Drawings of the work as executed and of the Art Committee's suggested amendment are appended to this Report for the information of the Council.

The proposed new Post Office and other Government buildings have engaged the attention of the Committee. Correspondence and interviews have taken place with H.M. First Commissioner of Works and his officials. In the matter of the Post Office, the Committee are assured that the design is receiving careful consideration both in respect to its position, its frontage lines, and in relation to the character of the important surrounding buildings.

A proposed addition on the south side of the chancel to the well-known Norman church at Stewkley, Bucks, has been the subject of much consideration. By the courtesy of the architect, Mr. J. O. Scott, the Committee were informed of the nature and extent of the suggested building; measured drawings were obtained and strong representations were made that the desired vestry accommodation should, if possible, be obtained within the limits of the existing fabric. Mr. Scott pointed out that the extra space was very urgently required, and that the Bishop of the diocese, after withholding approval, finally approved of the work. The matter has since been under reconsideration by the Bishop and the Vicar, and at the present moment the work is still in abeyance. It is greatly to be hoped that those concerned will refrain from adding to this unique example of early Gothic work.

The increasing prominence of illuminated and other advertising signs in London and large towns generally induced the Committee to make a vigorous protest, and upon their recommendation the Council of the R.I.B.A. passed a strong resolution and took other steps to direct public attention to the matter.

#### REPORT OF THE LITERATURE STANDING COMMITTEE.

Nine meetings have been held since the last Annual Report. The following officers were elected at the commencement of the Session:—Mr. R. Phené Spiers, Chairman; Mr. Paul Waterhouse, Vice-Chairman; Mr. C. Harrison Townsend and Mr. W. H. Ward, Hon. Secretaries.

The Lists of Books recommended to Students and Probationers in the *R.I.B.A. Kalendar* having been referred back to the Committee for further consideration, and the Committee having on the invitation of the Board of Examiners interviewed their representative, Mr. Benjamin Ingelow, it was decided to refer the list to the Board of Examiners for final revision, with the suggestion that the Board of Architectural Education should be also invited to consultation in this matter.

On the recommendation of Mr. Alexander Graham, the Hon. Secretary of the Institute, a Sub-Committee has been formed to consider a scheme by which the measured work undertaken by the Students in their Testimonies of Study in the Final Examination and in the Prizes and Studentships awards might be better co-ordinated and systematised than is

the case at present. This Sub-Committee will also prepare lists of buildings suitable for measurement, and of those already satisfactorily measured. In addition to members of the Committee, Mr. Alexander Graham, Professor W. R. Lethaby, Mr. Philip Norman (Treasurer of the Society of Antiquaries), Mr. Walter Millard, Mr. S. K. Greenslade, and Mr. Theodore Fyfe accepted invitations to join the Sub-Committee.

For the convenience of members and the better consideration of works submitted for purchase it was decided that books sent on approval should be on view in the Library two days before the meetings of the Committee.

The Committee wish to express their thanks to those members (and others) who have been good enough to contribute articles and reviews to the JOURNAL during the past year.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 192 volumes and 20 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and Transactions of Societies, and parts of works issued in serial form.

The number of works presented to the Reference Library was 111 volumes and 20 pamphlets.

The works purchased comprise 145 volumes, of which 61 volumes were added to the Loan Library.

The attendance of readers in the Reference Library numbered 5,420 (last year 4,909).

The number of works issued on loan was 3,858 (last year 3,545).

The number of books issued through the post was 254 (last year 225, and 121 in 1906).

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 91.

#### LIBRARY STATISTICS 1907-8.

DATE	DAY ATTENDANCES.			EVENING ATTENDANCES.			Books issued on Loan.
	Members.	Non-members.	Total.	Members.	Non-members.	Total.	
1907.							
April . . . . .	111	169	274	53	147	200	305
May . . . . .	117	185	302	63	110	173	330
June . . . . .	108	152	260	27	96	123	270
July . . . . .	110	180	290	20	54	74	265
August . . . . .	Reference Library closed.			Reference Library closed.			5
September . . . . .	122	169	291	36	64	100	320
October . . . . .	143	279	422	62	160	222	486
November . . . . .	111	266	380	55	117	172	368
December . . . . .	93	176	269	33	82	115	278
1908.							
January . . . . .	126	244	370	50	105	155	374
February . . . . .	113	237	350	66	141	207	401
March . . . . .	168	262	430	81	160	241	456
TOTAL . . . . .	1325	2313	3638	546	1236	1782	3858

Donations of books or pamphlets have been received from Herr Aug. Van Assche, Monsieur Henry Bandin, Mr. John Belcher, Mr. John Bilson, Mr. F. B. Bond, Mr. J. Burgess, C.I.E., LL.D., Professor G. Clason, Mr. T. E. Collcutt, Mr. J. D. Crace, Monsieur F. de Dartain, Herr Bodo Ebhardt, Mr. W. H. Goodyear, Mr. George Hubbard, Mr. Benjamin Ingelow, Mr. R. M. Johnston, Professor Virgil Nögy, Signor G. T. Rivoira, and Mr. Robert M. Young.

Thanks are due to Mr. B. T. Batsford for presenting a volume of Colling's original drawings &c. for "Art Foliage" and "Analysis of Form."

The Ordnance Survey maps of Central London have been added to the Library and are available for reference.

Amongst the books presented or acquired during the year the following may be mentioned: Blundel's *Réimpression de l'Architecture Française*; Willemin's *Monuments Français inédits pour*

*servir à l'histoire des arts*; Fordrin's *Nouveau livre de serrurerie*; Curtius and Adler's *Olympia*; Marot's *Das Ornamentwerk*; Walpole's *Anecdotes of Painting*; Ernest George's *Etchings of Old London*; Rivoira's *L'Origini della Architettura Lombarda*; Daudot's *La Sculpture Française au moyen-âge et à la renaissance*; Saladin et Migeon's *Manuel d'art musulman*; Egger's *Codex Escorialensis*; Rossi's *The Santuario of Madonna di Vico*; Dartin's *Etudes sur les ponts en pierre*; Het Vredespaleis te 'S Gravenhage; Ebhardt's *Die Grundlagen der Erhaltung und Wiederherstellung Deutscher Burgen*; "Ueber Verfall, Erhaltung und Niederherstellung von Baudenkmäler"; *Deutsche Burgen*.

#### REPORT OF THE PRACTICE STANDING COMMITTEE.

Eight meetings have been held since the last Annual Report. The following officers were elected at the commencement of the Session:—Mr. Ernest Flint, Chairman; Mr. W. H. Atkin Berry, Vice-Chairman; Mr. E. Greenop and Mr. W. C. Waymouth, Hon. Secretaries.

*Revision of the Institute Form of Contract.*—This matter, arising out of the case of *Robins v. Goddard* which was under discussion at the date of the last Annual Report, was brought to a conclusion by the presentation of the final Report of the Committee, and it is now before the Council.

The Committee have also had before them the question of a Form of Contract for letting building work in separate trades, as is customary in country districts. The matter, however, is postponed pending the more urgently required amendment of the Institute Form of Building Contract.

Other matters which have been referred to the Committee, and upon which they have reported to the Council, are—

- (1) The desirability of inserting some provision in the Institute Form of Contract for the Bankruptcy of the Contractor.
- (2) The possible liability of a Building Owner under the Workmen's Compensation Act.
- (3) The L.C.C. General Powers Bill, 1908.
- (4) The question of Professional Advertising.

The last named is still under consideration by the Committee.

#### REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Standing Committee have held six meetings, with an average attendance of 12.3, since the last Report. Mr. Lewis Solomon was re-elected Chairman, Mr. Max Clarke Vice-Chairman, and Mr. H. D. Searles-Wood and Mr. Matt. Gurbutt Hon. Secretaries.

The Committee have been represented by their Chairman upon the Engineering Standards Committee, dealing with the Standard Specification of Portland Cement, and he has attended the meetings of the Standard Committee, and reported to the Science Committee from time to time the nature of the proceedings. In view of Mr. Solomon's reports the Committee have devoted a considerable time to a consideration of the means by which consignments of Portland cement could be readily identified as being actually of the kind specified, and it was suggested that this end would be attained by the adoption of a system of delivery in sacks or barrels bearing identifying seals; and, further, that it would be convenient if cement were always delivered in sacks of a uniform weight. [The usual practice of good manufacturers at present is to deliver eleven sacks to the ton.] This matter is still under consideration.

The Council having asked the Committee to report on the methods at present in use for cleaning stone buildings, numerous inquiries have been made, the replies considered, and the result reported to the Council.

The Committee have under consideration the preparation of a standard of quality for materials used in the preparation of paints.

The Committee are carrying out an interesting series of experiments on the qualities and properties of the various materials used in making mortar. The whole of the laboratory work is being done by Mr. W. J. Dibdin.

### REPORT OF THE BOARD OF ARCHITECTURAL EDUCATION.

On the invitation of the Charter Revision Committee the Board have suggested certain modifications in the new By-laws. One of these, which has been approved by the General Body and now awaits the confirmation of the Privy Council, will give the Board power to elect its own officers, to draw up regulations for its procedure, and to issue certificates. The By-law will also give such Institutions as have accepted the scheme of the Board, and are recognised by it, the right to nominate a representative, being a member of the Institute, as a member of the Board.

During the past year the Visitors appointed by the Board have visited the Architectural Association Day Schools; King's College, London; The University of London, University College; Liverpool University; Manchester University. The Visitors have reported satisfactory progress in these Schools. It is hoped to extend the scope of the Visitors' work to other Schools.

On the certificate of the Board the Council of the Institute now grant exemption from the Intermediate Examination to students who have satisfactorily passed through approved courses at one of the recognised Schools. The School of the Royal Academy has been included in the list of recognised Continuation Schools. The certificates for such exemption are signed by the Chairman of the Board, by the Visitors appointed by the Board, and by the Masters of the Schools in which the student has passed his preliminary and continuation courses.

The Board have under consideration the question of issuing Standard Examples of architectural features. Negotiations are proceeding as to the publication of certain sheets submitted by Mr. Mervyn Macartney, and an Editorial Committee has the matter in hand.

Several meetings have been held by a joint Committee of members of this Board and the Board of Examiners R.I.B.A. with a view to a modification of the programmes of the Intermediate and Final Examinations, and certain alterations, approved by the Institute Council, have been made which it is hoped will simplify the Examinations and bring them into line with the syllabus of training drawn up by the Board and published in the *Kalendar*.

In the programme of the Intermediate Examination, instead of papers on (1) Classic Ornament, (2) Mouldings and Ornament, (3) The Orders, (4) History of Architecture, the following will for the future be set:—Two papers on the General History of Architecture, and the purpose of architectural features in relation to the buildings in which these features occur. In the Final Examination the papers now set on Mouldings, Features, and Ornament will be remodelled, and the Candidate will be required to show his knowledge of the principles of architecture, their theory and application, and to illustrate his meaning by drawings, and also by a written thesis on the subject.

A list of books recommended to Students is now under the consideration of a joint Committee of the two Boards, and will appear in the *Kalendar* for 1908-09.

### FINANCES.

The accounts of Ordinary and Trust Funds for 1907, prepared by Messrs. Saffery, Sons, & Skinner, Chartered Accountants, and audited by Messrs. H. P. Burke Downing [*P.*] and A. W. Sheppard [*A.*], the Hon. Auditors appointed last year here follow:—



(Signed) { H. P. PERKINS DOWLING [P].  
A. W. BURTRAND [A.]

Dr.	Balance Sheet of Trust Funds, 31st December 1907.	Cr.	
To ASHPITEL PRIZE FUND:—	£ s. d.	By Government and other Securities for total book value of Trust Funds invested	£ s. d.
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share .....	280 0 0	By Cash in hands of Banker: .....	12159 10 10
Balance at credit of Revenue Account .....	40 7 6		706 0 1
To ANDERSON AND WELSH FUND (Board of Architectural Education):—			
Capital—42 Shares in the Architectural Union Co. Ltd. at £14 per share .....	588 0 0		
Balance at credit of Revenue Account .....	82 11 0		
To ANTHONY CATTES LEGACY FUND:—			
Capital—£1100 N.E. Ry. 4 per Cent. Preference Stock .....	1594 8 0		
Balance at credit of Revenue Account .....	62 0 0		
To DONALDSON TESTIMONIAL FUND:—			
Capital—£72 L. & N.W. Railway 4 per Cent. Consolidated Preference Stock .....	89 0 0		
Balance at credit of Revenue Account .....	7 14 7		
To GODWIN BURSARY FUND:—			
Capital—£1000 Cheltenham Railway 4 per Cent. Debenture Stock .....	1344 13 6		
Balance at credit of Revenue Account .....	34 8 8		
To GREENHILL LEGACY FUND:—			
Capital—£20, 0s. 6d. B. Ansony Great Indian Peninsula Railway .....	313 14 10		
To LIBRARY FUND:—			
Balance at credit of Revenue Account .....	38 2 0		
To OWEN JONES STUDENTSHIP FUND:—			
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock .....	1773 0 0		
£1100 Great Western Railway 3 per Cent. Consolidated Guaranteed Stock .....	1900 12 0		
Balance at credit of Revenue Account .....	3473 12 0		
To PUGH MEMORIAL FUND:—			
Capital—£1070 L. & N.W. Railway 4 per Cent. Consolidated Preference Stock .....	1342 12 0		
To RAYON SNELL BEQUEST:—			
Capital—£604, 4s. New Zealand 3½ per Cent. Stock .....	700 0 0		
Balance at credit of Revenue Account .....	104 0 10		
To TITE LEGACY FUND:—			
Capital—£1150 2½ per Cent. Consols .....	1100 1 8		
To WATERBURY BEQUEST:—			
Capital—£1024, 13s. 6d. Metropolitan Water Board 4 per Cent. Stock .....	1000 0 0		
Balance at credit of Revenue Account .....	82 10 6		
SAFFERY, SONS, & SKINNER, Chartered Accountants.	£12984 6 11		£12984 6 11

Examined with the vouchers and found to be correct. 24th March 1908.

(Signed) { H. D. BUIKE DOWNING [P].  
A. W. SHEPARD [A].

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1908, exclusive of Entrance and Final Examination Fees:—

## Estimate of Income and Expenditure for Year ending 31st December 1908.

EXPENDITURE.	£ s. d.	INCOME.	£ s. d.
Hent, Lighting, and Warming .....	1073 0 0	Subscriptions and Arrears .....	6500 0 0
Salaries .....	2640 0 0	Dividends on Stocks and Shares and Interest on Deposit Account .....	780 0 0
General Printing, Stationery, Postages, and Petty Expenses .....	900 0 0	Sale of Publications (other than JOURNAL and KALENDAR) .....	460 0 0
General Meetings, Exhibitions, &c. ....	400 0 0	JOURNAL and KALENDAR—	
Housekeeping .....	195 0 0	Sales .....	170 0 0
Advertisements .....	70 0 0	Advertisements .....	1000 0 0
Examination Expenses .....	325 0 0		1120 0 0
General Repairs .....	130 0 0	Use of Rooms .....	100 0 0
Fire Insurance .....	25 0 0	Examination Fees—	
Medals and other Prizes .....	145 0 0	Statutory .....	50 0 0
Grant to Library .....	140 0 0	Preliminary .....	700 0 0
Other Grants .....	375 0 0	Intermediate .....	750 0 0
JOURNAL .....	1625 0 0	Special and Final (forfeited) .....	250 0 0
KALENDAR .....	250 0 0		1550 0 0
Contributions to Allied Societies .....	450 0 0		
Miscellaneous—			
Charter Revision .....	150 0 0		
Legal and Accountants' Charges .....	100 0 0		
Contingencies .....	300 0 0		
Balance .....	£10810 0 0		£10810 0 0

## AUDITORS' REPORT.

We have examined the Accounts for the year 1907 and are happy to be able to report that the satisfactory condition of the finances of the Institute is maintained.

The excess of income over expenditure in the year 1906 was £1,485 16s. 9d.; for 1907 it was estimated that it would amount to £1,815; it proves to have been £2,084; for, while the estimated expenditure has been slightly exceeded in the matters of office expenses, advertisements, the JOURNAL, and some others, these excesses have been more than balanced by savings upon the estimate in the matters of lighting, warming, &c.; general meetings and exhibitions and examination expenses.

The amount of the invested funds (ordinary) has been increased from £18,760 1s. 10d. to £21,796 1s. 5d., and the further sum available for investment on the 31st December last was £2,101 10s. 7d.

We desire to place on record our appreciation of the excellent manner in which the books of the Institute are kept and the accounts presented.

H. P. BURKE DOWNING [F.]  
ARTHUR W. SHEPPARD [A.] *Hon. Auditors.*

31st March 1908.

## DISCUSSION ON THE ANNUAL REPORT OF THE COUNCIL.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

THE PRESIDENT having presented and moved the adoption of the Report, the motion was formally seconded by Mr. Leonard Stokes [F.].

Mr. Wm. Woodward [F.] said that a few meetings ago he had stated that some of the most important topics had been raised in that room to comparatively empty benches, and he instanced his own annual criticisms of the Annual Report, but he was rather glad to see that the benches that evening were not so empty as they had been on other occasions. He did not rise to propose an amendment to the Report, but merely to take advantage of the opportunity to make a sort of running comment upon the document. It had occurred to him, with reference to the Reports of the Standing Committees, that the procedure adopted by the Borough Councils might very well in the future, if not on that occasion, be adopted in that room; that is to say, that the Chairmen respectively of the Standing Committees should rise to respond to the criticisms that might be offered upon their particular reports. They could not expect the President of the Institute to be so thoroughly acquainted with the details of the work carried on and the duties carried out by the various committees as the Chairmen of those committees. He therefore threw that out as a suggestion that in the future they should expect, for example, when criticising the Art Standing Committee that the Chairman of the Art Standing Committee should rise in his place and stand there until the criticism on his particular committee was made. With regard to the report now before them, whether intentionally or unintentionally—he thought quite unintentionally—there was very little material before him to make any serious remarks upon. He was under the impression that he should speak more of the omissions of the Council than of its commissions, and he was in the position almost of having to make bricks without

straw; he would, however, do the best he could. On the second page of the Report—page 50 of the Supplement—they had the satisfaction of knowing that, notwithstanding—he said of course, with very deep regret, because he had lost many of his very old friends—notwithstanding very severe losses by the death of twenty-one Fellows and nine Associates during the year, it was satisfactory to find that there were forty-four Fellows and thirty-four Associates more than there were in 1907. The fact that the membership now totalled up to 2,239 showed the advance that the Institute was making as regards numbers, and showed, he was quite certain, a corresponding advance as regards the importance attached to it by the outside public. The Examination returns showed that nearly one-fourth of those who offered themselves for the Preliminary Examination, more than half of those for the Intermediate, and nearly two-thirds at the Final and Special Examinations, were relegated to their studies. The number of Probationers—that is, those who had passed the Preliminary Examination—now stood at 2,840, and of the Students at 864, and the Council regretted that so large a number of Students remained on the list without proceeding to the Final Examination. He thought, however, that some of the members would agree with him that rather than that should be a subject for regret, considering the present state of the profession, it should be a subject for congratulation. He should like to make a reference to the President's Smoking Conversations. These functions were started by their past President, Sir Aston Webb, and had been continued by his successors, to the satisfaction and pleasure of all who took part in them. These occasions afforded members an opportunity of meeting those whom they could only meet on such occasions, and he trusted that the idea would be perpetuated by the President's successor. He should like to avail himself of the present opportunity

to thank their President personally for his hospitality, and for his invariable courtesy towards them all. On page 51 there was a reference to the Development of Towns and Suburbs Committee. The references were all very vague, and no replies seemed to have been given to their communications; so that reading that portion of the Report rather belied him to the belief that there was an idea that they were pushing themselves perhaps a little more forward than they should do, even as the strong representative body to which he had just referred. With regard to the Workmen's Compensation Act, he observed that Counsel's opinion stated that, in order to bring an assistant within the Act, it was necessary that his remuneration should not exceed £250 per annum. That was a subject upon which, he was sure, assistants would be delighted to be informed upon, and they would no doubt be gratified to have the opportunity of dealing with that £250 per annum! Then there was a reference to the Prevention of Corruption Act. That referred, as they knew, to the receipt by architects of money direct from a builder, in reference principally to quantities and drawings provided and included in the Bills of Quantities. He was sure that members would agree with the opinion of Counsel that "the practice was not commendable." Those words should be taken very much to heart. In his (Mr. Woodward's) opinion no sum of money whatever should pass from the builder to the architect except only in the case where the architect might happen to provide extra drawings at the request of the builder; then the charge was a perfectly legitimate one. That, in his opinion, was the only occasion when it was desirable or commendable that the passing of money from the builder to the architect should take place unless with the direct knowledge of the client. With regard to the closure of the Fellowship being deferred until the granting of the new Charter, that appeared to refer to a date which he should be very sorry to attempt to fix. It would have been better if they could have fixed a definite date for the closure of the Fellowship.

THE PRESIDENT stated that there was every probability of the Charter being granted at a very early date.

Mr. WOODWARD, continuing, went on to refer to the paragraph on page 52, headed "Architects and Local Authorities," with reference to the form of agreement to be entered into between local authorities and the architects whom they employ. This was a matter of very considerable importance, and before that agreement received the sanction of the Council, he thought it should be brought before the General Body, for it was very important indeed that they should know the relationship between municipal and local authorities and architects. The Finance reference on page 54, showing an invested capital of £25,796, proved the financial success of the Institute during the last few years, and that led him to say, with no doubt was in the minds of all of them, that he hoped the day was approaching when they should be able to start building their own premises. They had had that object before them for a considerable time. Their funds were now increasing, and he hoped that they should be able to find a site upon which they could build, and be able to compete in that respect with the sister Institution in Great George Street and speak upon their own freehold, in their own premises, designed by themselves. With regard to the Art Standing Committee's Report, the Committee state that they share the general regret at the fate of Crosby Hall. He was not at all sure that there was this general regret. He was a diligent reader of *The Times*, and he had read every letter and every document that had emanated from the Committee formed for the preservation of Crosby Hall, and he should like to express his feelings of intense pleasure that the £105 which the Institute had subscribed towards its retention had been returned, for there were many better objects to which such a sum could be devoted. The correspondence which had appeared upon the subject reminded him, as

it must have reminded others, of the telegrams once received on the last days of the issue of the *Encyclopædia Britannica*: "If you do not subscribe to Crosby Hall to-morrow, if you do not subscribe at 10 o'clock to-morrow, Crosby Hall will be lost." That sort of thing went on for some weeks. Then they suggested that at the cost of £60,000 they were going to convert Crosby Hall into a bank. Those who knew Crosby Hall as it was a few months ago would agree with him that the idea of converting it into a bank was almost an absurdity; but, whatever it might be, a Fellow of the Institute, a man whom they all admired, a man thoroughly able to speak upon such a subject—he referred to Mr. Caröe, who took a leading part in the movement to preserve Crosby Hall—made use of terms which were to his mind magnificent. He said that the Hall reminded him of two examples: it was a Oainsborough or a Reynolds in architecture, and he enlightened an ignorant public by his references to the balance of its parts, to the quite unique interdependence of its walls, windows and roof, and very specially to the masterly manner in which the great oriel was managed. Those expressions of course were supplemented by such expressions as "irreparable loss of priceless treasures," and all the well-known stock phrases with which those who indulge in newspaper correspondence were so familiar. But it had not ended there. That movement came to an end, and now two good ladies were going at it hammer and tongs in *The Times*. One said that Crosby Hall should be reconstructed in the garden of the late Lord Leighton; the other in the garden of the very late Sir Thomas More. One lady said last week—and he thought she must have been inspired in these words by their friend Mr. Caröe—"The most vital tradition of Crosby Hall is that Sir Thomas More lived there, and possibly," she adds, "wrote part of his *Utopia* within its walls," and she further opined that the departed knight would have approved of the scheme. That was the sort of language now going on about Crosby Hall; but he wondered whether those good ladies, and whether Mr. Caröe, and whether all those who were supporting the reconstruction of Crosby Hall knew—and he was speaking now of something he had seen with his own eyes—that dozens of the crocked finials in the roof of Crosby Hall were made of cast iron painted to imitate oak; that the whole, or nearly the whole, of the stone work of the interior had been painted and picked out in parti colours by the *restaurateurs*—not the restorers—of Crosby Hall; that the large-boards of the Hall were painted to look like oak; and that the magnificent fireplace had been converted by the same *restaurateurs* into a place to grill chops and steaks, and that the only legitimate remaining parts were the magnificent roof and the oriel window which Mr. Caröe said had been so wonderfully managed. Those were the only comments he had to make, and he was delighted to find that the Institute was richer by £105 because Crosby Hall had not been retained. Coming to the reference in the Art Committee's report on Waterloo Bridge, it would be found, he thought, that the Art Committee had not come at all well out of the movement it made with regard to Waterloo Bridge. The Art Committee had made complete working drawings, had got into communication with Spring Gardens, and agreed with them, and then they went to the Duchy of Lancaster, and the Duchy of Lancaster said, "No, we do not approve your scheme." Therefore the whole work of the Art Standing Committee was lost in regard to that. The Report stated that the drawings were attached to the Report submitted to the Council, and he thought they would all be interested to see what drawings they were which had fallen into this state of being rejected by the Duchy of Lancaster when approved by the Art Standing Committee and by the London County Council. There was a reference to the proposed new Post Office, another Government building, and the Report says: "The proposed new Post Office and other Government buildings

have engaged the attention of the Committee. Correspondence and interviews have taken place with H.M. First Commissioner of Works and his officials." That was all the information given. It says: "In the matter of the Post Office the Committee are assured that the design is receiving careful consideration both in respect to its position, its frontage lines, and in relation to the character of the important surrounding buildings." This was a case where he must say it appeared to him, without any more information than was afforded by this Report, that they had unnecessarily interfered. On page 56 there was a reference to the Norman church at Stewkley, Bucks, of which the Committee say that Mr. J. O. Scott was the architect. He thought they surely might have left Mr. Scott to deal with this church as he thought fit; and their interference was quite uncalled for. Then there was a reference on the same page to the "increasing prominence of illuminated and other advertising signs." He should be very sorry to be a party to the total elimination of advertising signs. They had those flashing illuminations on the other side of the water advertising a beverage with which many of them were not unacquainted, but they did no harm to anybody. There were doubtless many striking and flagrant examples of bad advertising, but they should not tar them all with the same brush. With regard to the Library, it was interesting to know that during last year there was an increase of 511 readers, an increase of 313 in the Loan part of the Library, and an increase in books passing through the post. During the twelve months there were 3,638 attendances during the day, and 1,782 during the evening. This pointed to excellent work carried out by the Library; and in mentioning that he could not help mentioning the excellent work always done and the attention always afforded most courteously and most usefully by Mr. Dircks. Coming to the report of the Practice Standing Committee on page 58, there was a reference there to the revision of the Institute Form of Contract and a reference to the case of *Robins v. Goddard*, and also a reference to the want of a clause in regard to the bankruptcy of the contractor. He had been astonished to find—and he thought Mr. Hall would sympathise with him—that there was no reference in their Conditions of Contract to the bankruptcy of the builder. There was a reference to the bankruptcy of the employer, but, curiously enough, not to the bankruptcy of the builder, because in their old heads of Conditions of Contract there was a very stringent clause with regard to the bankruptcy of the builder. He was very glad indeed that this had come before the Practice Standing Committee. As regards the reference a little lower down to professional advertising, he did not understand what that meant. He did remember, however, that some years ago he was putting up a building in Cockspur Street, and he had put his name, "William Woodward, architect," on the board. He got a very polite letter from the Secretary of the Institute, and the following morning that board was removed; but he knew that similar communications had been made to other architects and that they did not remove their names. He thought himself—and he agreed with the Secretary—that it was a form of advertising that was not worthy of a member of the Institute, and he did think that if some of them removed their names, it was only due to the Council of the Institute, in its desire to maintain the profession at a high level, that all the names should be removed from buildings except, of course, in the cases where the property was to be let, or something of that sort. Coming to the Report of the Science Standing Committee, he thought that what the Committee had done with regard to Portland cement was one of the most useful pieces of work ever done by them. Portland cement during the last three or four years had been imported in very large quantities from Belgium at a very cheap rate, and the Customs House authorities were such idiots—he used the term advisedly—as to allow this Portland cement to come

into this country in sacks marked "Crown Brand," or some such English term, and that being in English, architects were misled into thinking that it was English cement, whereas in fact architects and builders knew that, not only were they getting Portland cement cheap, but they were getting Portland cement that was utterly unreliable and likely to cause their buildings, particularly in underpinning, very considerable damage. The Science Committee could not do better than persevere in its endeavour to secure that every bag of cement, or every sack of cement, that came from the manufacturer should have the name of the manufacturer, and be delivered in sacks of uniform weight; and that they should not be satisfied with any such subterfuge as "Crown Brand" or anything of that sort. With regard to the Report of the Board of Architectural Education, he thought the alterations proposed for the Institute Examinations were very commendable, and if the suggestions set forth were carried out the examinations would quite as usefully show the mettle of the candidate going up for examination as the present papers do. The Financial Report was exceedingly satisfactory. He noticed, comparing the expenditure with that of last year, that the only important difference was with reference to general repairs. Last year £54 2s. 7d. was spent; this year £120 was spent. He thought they might increase that expenditure in two ways. In the first place, looking round the room, it would be seen that many of their benches would be the better for a little more stuffing. Again, looking at the broken patera and broken leaves in the dome of their meeting room, and considering the overflowing riches of the Institute, he was led to think that the least they could do was to restore those broken patera to their former splendid condition. Coming to the Report of the Auditors, he was very glad indeed, if he might not be considered self-enlogistic, that he was one of those whom he was an Auditor—and he had filled that office for two years—who proposed that at the end of every financial statement they should have the Auditors' Report, because the Auditors in going through the detailed accounts knew exactly the weak parts or the strong parts, and in their brief Report they gave members exactly what was wanted. For example, they found that the excess of income over expenditure in 1906 was £1,400; for 1907 it was estimated at £1,815, and it proved to have been £2,084. That result of estimating was one he was sure which would commend itself to architects, who, if they erred at all, erred in the opposite direction to that set forth in the Report. Their financial statement showed that they now had £18,760 available, and the only reference he would make to their investments was that he thought they should not invest quite so much in railway stock. He was not a financier, but bearing in mind the present position and the possible future position of railway stocks he thought it would be safer almost to content themselves with Consols. The Auditors in conclusion state: "We desire to place on record our appreciation of the excellent manner in which the books of the Institute are kept and the accounts presented." That enabled him to say again what he remembered saying for some years past, and the observations had received the cordial assent of the Meeting, that a great deal of this was due to their worthy official Mr. Taylor. Mr. Taylor was thoroughly conversant with every figure. When he was Auditor, whatever question he asked, Mr. Taylor was always able to answer it at once. While speaking of their officials he should like to add that thanks from every member of the Institute were due to Mr. Northover. Those who had had papers or reports of speeches knew the value to attach to Mr. Northover's labours so as to make those reports perfect, and to help as much as he possibly could in the preparation of their papers. He was not able to make any further reference to the new Secretary, because, to use a homely phrase, "the proof of the pudding was in the eating," and he had not eaten sufficient pudding connected with the Secretary; but next year, at all events, he hoped to be able

Mr. Edwin T. Hall [F.] said he hardly knew what their Annual Meeting would be without their genial friend Mr. Woodward. He always supplied that note of pleasantry that made a dry Report interesting to everybody. His criticisms, too, though sometimes very trenchant, were always fair; and when he got up to praise, as he had done on the present occasion in some instances, it was exceedingly pleasant for those who had been concerned with the Report to listen to him. Mr. Woodward in his criticisms had raised one or two points which he (Mr. Hall) would like to answer. With regard to the closing of the Fellowship, Mr. Woodward had expressed some regret that it should be deferred until the granting of the new Charter. Mr. Woodward, however, must be aware that the mode of election to the Fellowship could not be altered except by a change in the Charter, and the only question was whether there should be a separate Charter to close the Fellowship, or whether that matter should be embodied in the other amended Charter which they were petitioning for, and which was to include other matters. The draft new Charter had been for some time in the hands of the Institute solicitors, and he was sure the Meeting would be glad to know that the draft had been that day submitted to the Council and had been passed by them, so that now their solicitors would approach the Privy Council at once to submit it to His Majesty. With reference to the point as to architects and local authorities, Mr. Woodward had asked what the proposed form of agreement was to be which was to be entered into by local authorities and architects whom they employ. He was not sure that they would be able to gratify him, because it had not been submitted to the Institute at all, but their attention had been called to it. This was a departmental matter. The Local Government Board were drafting a form of agreement to be entered into by local authorities with the architects they employed. The principle of the Board's proposal was admirable. They all knew of a recent case where an architect was employed, but the terms of his employment were not under seal; the Local Board had refused to seal a document which had been agreed to and engrossed. The result was that the architect was left without any remedy apparently. He had, however, brought an action in order to recover his fees, but what the result of that action would be they could not tell. It appeared, however—and the wiser architects realised it the better—that unless a contract was entered into with the corporation under seal the architect could not recover one penny of his fees. That was the law which had been laid down again and again, and it was very hard, because some public authorities were not in the habit of entering into these contracts under seal.

himself had carried out a very large work indeed where his appointment was not under seal, and when he asked for it he was advised not to press for it because it would offend his clients. As a matter of fact, however, he was paid and so came out all right. In principle there was no objection at all, but rather the reverse, to the Local Government Board's insisting that a contract should be entered into. The point, however, that interested architects was that the Local Government Board were proposing to make the payment to the architect a lump sum, and what the Institute Council were seeking to do was to say that the lump sum should be based upon the Scale of Charges of the Royal Institute of British Architects. If that were not done the following difficulty would arise: A pernicious practice had been started by some local authorities of advertising for architects to tell them for what percentage they would undertake certain work. It would be readily seen that if that were done there would be a certain number of men who, from ignorance of the duties they were to undertake, or from some other less worthy reason, would undertake to do the work for any percentage whatever in order to get it. Therefore the Council had asked the President of the Local Government Board to receive a deputation of three of its members to state the architects' case. He hoped the President would receive the deputation, and that they would be able to convince him that it was in the interest of the public that such a system should be stopped. It seemed to be the view of some local authorities that if they could ask builders to compete for a building it was perfectly legitimate to ask architects to do the same. They forgot, however, this essential difference, that when a builder was asked to tender for a building he had to supply for that building so many million bricks and so much labour, but when an architect was asked to tender there was no specific quantity of work laid down for him to do. He had not to supply so many drawings and to give so much time, but it was left to him; and if he were ignorant of his duties he might supply but a very few drawings and give but very little time; and such services would be well remunerated perhaps at 1 per cent. If, however, he did his duty, as every member of the Institute would, and gave everything necessary—not necessary to suit his pocket, but necessary for the interests of his clients—he could not be remunerated at less than the Scale of Charges of the Institute. Those were arguments they should endeavour to represent to the President of the Local Government Board. With regard to the report of the Practice Standing Committee, he was surprised to hear Mr. Woodward's remarks as to the omission of a bankruptcy clause. A bankruptcy clause had been purposely left out in the Conditions of Contract, for such a clause would be contrary to the Bills of Sale Act. It would be giving a preferential position to a creditor which was absolutely contrary to law. The clause now in the contract was specifically drawn up by very able counsel under the guidance of the Institute solicitors, Messrs. Waterhouse, Winterbotham, & Harrison, with a view to meet the Bills of Sale Act and to prevent the very pitfall into which they would have fallen under the old form.

MR. MAX CLARKE: Was the bankruptcy of the client mentioned?

MR. E. T. HALL: That was not the point. The point here was the desirability of inserting some provision for the bankruptcy of a contractor. The bankruptcy of the client was a different matter, and provided for a means of paying the builder. But if the builder became bankrupt under the old clause it would not have held for a moment, because when that clause was drawn the present Bills of Sale Act was not in existence. Therefore the clause had to be abandoned. With regard to other revisions of the Institute Form, they were at the present time before the Council, and, as a matter of fact, had been referred to a Committee of the Council to consider and report upon. The Council had had the Form of Contract itself before

their solicitors, who had advised in respect of two or three matters arising out of a particular case referred to in the Report. That would be dealt with in due course and laid before the Institute. He was sorry personally to see that the Committee were entertaining a Form of Contract for letting building works in separate trades, as was customary in some districts. That was a very big subject to go into, and could hardly be dealt with at that meeting, but it was a thing to be very much discouraged by architects.

MR. W. H. ATKIN-BERRY [F.] said that the Committee were not recommending that; they had not considered it yet.

MR. HALL said he would very strongly urge the Committee under no consideration whatever to put forward such a contract. One great reason against it was that when a contract was let in separate trades by the employer the employer was liable for the *laches* and neglect or default of any one of the separate tradesmen which might cause damage to any other of the separate tradesmen. It was a very grave position, and he hoped the Institute would never associate itself with the practice. An architect to a job under such a form of contract might find himself embarked in a huge amount of litigation, out of which his clients might suffer great loss and he himself certainly get no credit. He thought the great thing was to impress upon clients that the one-contract system was much more to their interest. In the case of a particular contract which he was connected with in the North of England, where that custom obtained, it was strongly urged upon the City Council that they should let in separate trades, because thereby—it was alleged—they would save the profit of the chief contractor. Against his advice, against the advice of the Committee, and against the advice of the Town Clerk, tenders were ordered to be taken from separate tradesmen, but as a concession to him they consented that tenders might also be taken for one contract for the whole of the work—from several contractors, of course, in competition. The lowest one-contract tender was £25,000 lower than the sum of the lowest of all the separate trades put together. That was an object lesson well worth bearing in mind in order that if they were ever placed in the position of advising their clients they could point to it and say that it was very much in the clients' interest to have one contract. It was very much in the interest of the architect to do it he could assure them. With regard to the question of professional advertising, they all agreed with Mr. Woodward that every architect should be treated in the same way, but he could assure him that whenever the Council wrote to architects they always undertook to take the boards down, and he was exceedingly surprised to hear from Mr. Woodward that that was not always done. He was sure it was not within the knowledge of the Council, or some stronger action would be taken. He should like to join with Mr. Woodward in expressing the great appreciation that not only all members of the Institute but all members of the Council had of the officers of the Institute. The loyal and zealous way they performed their duties from the highest to the lowest was worthy of all commendation. He should like in this connection to mention, as Mr. Woodward had done, Mr. Tayler's name, because Mr. Tayler was an old and tried officer of the Institute, and they all appreciated immensely the way in which he performed his duties. They all, too, exceedingly appreciated the way Mr. Northover performed his. The Meeting knew, no doubt, that Mr. Northover was now the Editor, and not the Assistant Editor, of the JOURNAL. This was an honour he thoroughly deserved, for there was no one who knew him but must be aware of the great and patient care he gave to all matters connected with the literature of the Institute, and how well those duties were performed. In mentioning these two gentlemen he should like also to mention Mr. Dixons: his kindness was commented on from the youngest to the oldest, and they all appreciated him in

the very highest degree; and in like measure they appreciated the juniors. Of their friend Mr. MacAlister he could only say that they knew he had a high ideal of his office, and they expected he would be as popular as any of his predecessors had been.

Mr. JOHN W. SIMPSON [F.] said he should like to express the appreciation that they all felt and to associate himself with what Mr. Hall had said as to Mr. Woodward's annual criticism of the Council's Report. It was a very great pleasure for anybody who had worked on the Council to hear remarks and criticisms made by one who had really read and studied the Report, and he could only add that he wished more members would take up the same line as Mr. Woodward and favour them with their remarks and criticisms on the work done during the year, especially if they would do it in the same tone and in the same delightful way as Mr. Woodward had done. He supposed he was especially there to be shot at by Mr. Woodward, that is to say, as the guilty Chairman of the Art Standing Committee. The Art Standing Committee had made a Report which had offered, he thought, more material for criticism than that of any other Committee, and accordingly it had met with more criticism by Mr. Woodward than any other. It would be a lesson to them to make their Report shorter another time; but still they did desire to say as fully as possible for the information of members what had been going on. There were one or two matters on which Mr. Woodward had asked for more information, and so far as he could he would supplement the Report. He was very sorry that neither of the Secretaries of the Art Standing Committee, Mr. Gibson or Mr. Forsyth, was present, but perhaps for that very reason he could say more freely than he could before them how very much indebted the Art Committee was to those two gentlemen for their strenuous and hard work. He did not know what the Committee would do without them. There was one small omission in the first line of the Report which had escaped Mr. Woodward's eagle eye. He said that he (the speaker) was elected Chairman, and Mr. Forsyth and Mr. Gibson Hon. Secretaries. But it was not said, and he hoped it was not too late to insert, that Mr. Hare was elected Vice-Chairman, because Mr. Hare was a very hard-working member. The first point on which Mr. Woodward attacked the Committee was with regard to their unfortunate phrase that they shared the "general regret" at the fate of Crosby Hall. Mr. Woodward said the regret was not general, and personally—he did not want to give his Committee away, the Report was the Report of the Committee and not the report of the Chairman—but he did not mind admitting that his personal regret was mitigated by the return of the hundred guineas. (Mr. Woodward: Hear, hear!) There was, however, another side to the "regret" that Mr. Woodward had not mentioned, and that was that, although there was no doubt a very great deal of extraneous matter in Crosby Hall which was very justly and properly criticised, yet there was the roof and there was the window; those two things were very fine, and he thought they might very properly express regret at the disappearance of these architectural documents. Coming next to perhaps the most important thing that the Art Committee had had to do with—viz. the alterations at Waterloo Bridge—they had been of course obliged to condense their Report and had not said as much as they might have done; but he had sent for the drawings of the absence of which Mr. Woodward had complained, and he thought the Meeting might be interested to see them. [The drawings being exhibited to the Meeting Mr. Simpson described at length the Committee's proposals, and gave reasons for them.] The County Council officials and the Tramways Committee, Mr. Simpson continued, had been exceedingly good. There had been so much said against the London County Council that he thought it only right that they should say as much as they could for them where they had an opportunity. Everything went through quite smoothly, and although

it cost a little more money the tramway engineers remade their drawings, and everybody was kindness itself about it until it came to a merely formal request that the Duchy of Lancaster would allow this alteration between themselves and the London County Council. The Architect of the London County Council and himself went to the Duchy of Lancaster and saw—he had forgotten the exact title of the official, but it was a very important one, and he listened with the greatest politeness to them, and said the matter must go before the Chancellor himself, and as soon as he heard from the Chancellor he would let them know. The answer was a refusal; the Chancellor declined to consider it at all. The vacation period was then at hand, further delay was for many reasons out of the question, and the whole matter fell through; it was no fault of the Art Committee, it was no fault of the County Council, it was the fault of one man who had had nothing to do with it.

Mr. WOODWARD: It is a great pity we could not make stronger representation to the Duchy of Lancaster.

Mr. SIMPSON: We are not political people here.

Mr. WOODWARD: We know what officials are.

Mr. SIMPSON: This was not an official; it was the very head and front himself. Then with regard to Mr. Woodward's inquiries in the matter of the Post Office and other Government buildings, the Post Office referred to was the new building at South Kensington. There he did not think the Art Standing Committee could be accused of having interfered unnecessarily. The new building would form part of that magnificent group of which the President's Imperial Institute was a conspicuous feature. Sir Aston Webb's Museum and Mr. Waterhouse's Natural History Museum were all together there, and it was important that any supplementary building contiguous to them should be at any rate in harmony with what had been done. They had not been able to say more about it in their Report because negotiations were still in progress. They had been received with the greatest kindness and courtesy by the First Commissioner of Works, and no doubt they should have a satisfactory Report to make to the Council later on. Then there was a little criticism by Mr. Woodward as to the Committee's action with regard to Stewkley Church. No attack whatever had been made on Mr. Scott. The desire of the Art Committee was to strengthen Mr. Scott's hands, and he thought they were able to do so. Mr. Forsyth had had the matter in train since the last Committee meeting (he himself was unfortunately ill and had been unable to attend), but he believed the matter was under reconsideration by the authorities; at any rate there was no doubt whatever in the mind of the Art Standing Committee that if this addition had to be made to the church it could not possibly be in better hands than Mr. Scott's. The last paragraph in their Report was in relation to illuminated signs and advertisements. The Committee did not desire to discourage the sale of whisky; that was not the purpose of the Art Standing Committee; but they should like to regulate a little the blinking and winking signs if they could. The suggestion made by the Council was that the London County Council should have power to regulate these advertisements. The Committee had not suggested that they should be done away with or suppressed, but that the licence which obtained at present should be regulated. (Mr. Woodward: Hear, hear!) That, he thought, was a point upon which they should all agree. He would now go a little outside his Committee, if he might, and take up Mr. Woodward's rôle of critic, instead of defending. As to the question of professional advertising, in the Report of the Practice Standing Committee, he should like to put it to the Meeting in rather a different way. Was it really so gross an offence that an architect's name should appear on a building while it was being put up, and yet that it should not be an offence to put his name on when the building was up? They had had of late a Committee—the

inception of which was due to Mr. Belcher, who had the matter very much at heart—whose business was to consider the best means of educating the public in architecture. He did not know whether anybody had been daring enough to say this in public; he hoped they would bear with him, but it seemed to him that one of the most important ways to interest the public in the architecture of a building was to let them know who the architect of it was. The public was never so interested in a building as during its progress. Now, if they went down Regent Street—perhaps he had better not say Regent Street (*laughter*)—if they went down any other street, and found a building in progress, they would find that the electric light was being done by Messrs. Jones & Sons, in enormous letters; that the fireproof floors were being done by somebody else; that the builders were Messrs. Brown, Robinson, & Smith, and the parquet floors were being made by somebody else. The whole building was covered with these announcements, and the impression left on the mind of the public was that these were the people who were responsible for the building, these were the people who designed it, and the architect's name was not mentioned at all. He was rather inclined to think that there was another side to the question altogether—whether, from the point of view of educating the public and interesting them in the architecture of the building, it would not be a good thing, under certain judicious regulations, that the name of the architect should appear on the building, so that folk might say, "This is being built by Mr. Woodward," "This is by Mr. Belcher," "This is by Mr. T. G. Jackson." It will be rather interesting to see how these buildings are coming out." But at present nobody knew who the architects of the buildings were. Perhaps that was the most daring thing he had to say. There was, however, one little omission on Mr. Woodward's part which he would draw attention to. He should like him to have said something about Mr. Locke. This was, he supposed, the last opportunity they should have of publicly saying anything about their late Secretary, and he should like to draw attention to the fact that Mr. Locke was a very great administrator. His administration of the work of the Institute was a very striking success, and he was perfectly sure that every member of the Staff would agree with him that Mr. Locke had an extraordinary knack of getting the very last ounce of work out of them without worrying them in the least—a very remarkable faculty which was seen to great effect during the Congress held in 1906. He had nothing more to say, except to thank Mr. Woodward for his merciful handling of the Art Committee, and to hope that they should meet with even a better reception at his hands next year.

Mr. W. H. ATKIN BERRY asked to be allowed to reply to some remarks Mr. Hall had made with reference to the Report of the Practice Standing Committee. He thought Mr. Hall had spoken under some misapprehension—first, as to the wording of the Report; and, secondly, as to the facts. With regard to the form of contract for separate trades, if Mr. Hall would kindly look at the Report he would see that it stated that "the Committee have had that question before them, but that it has been postponed." The Committee were not responsible for having the matter submitted to them; they had not so far dealt with it or made any recommendation on the subject. Mr. Hall's criticism was therefore premature, though quite in good nature he was sure. Then as regards the bankruptcy of the contractor. The Committee were not responsible for having that brought before them. They had reported to the Council, and, without betraying any secrets, he thought he might say that it would be found that their recommendation to the Council on the point was a perfectly innocent and a perfectly proper one. He did not know why Mr. Hall should speak in terms of reprobation of the actual Report as it stood in these pages.

Mr. EDWIN T. HALL said he should like to apologise if he had said anything unkind. He certainly did not intend

to say anything severe. Not as he read the Report, and as he thought Mr. Woodward read it, he thought that the Committee had under consideration "the desirability of inserting," &c.

Mr. ATKIN BERRY: That is the point referred to us, but I want to make it quite clear that the Committee are not deserving of Mr. Hall's criticism regarding it.

Mr. GEORGE HUBBARD, F.S.A. [F.], said there was one other matter which he should like to bring forward—not that it had much to do with the Annual Report, but it was a matter which was of supreme importance to all architects. His point was that in the first clause of "The Professional Practice as to the Charges of Architects," the architect undertook "the general superintendence of the works." He was not sure whether it was clear to all architects what the full responsibility was that attached to those words. It was practically impossible for an architect to carry out the "general superintendence of the works," and in the event of the builder failing to execute the works in accordance with the contract, or in the terms of the specification, it was highly probable that the architect would be directly liable to the employer for negligence. He thought that the Council should consider whether the words defining the architect's duties in the "Professional Practice as to the Charges of an Architect," were quite fair and reasonable. Under the existing conditions the architect was made responsible for work over which he could have little or no control. He suggested that the duties and liabilities of an architect should be laid down in the agreement between the employer and the contractor so that an architect might be relieved from an unlimited liability.

Mr. MATTHEW B. ADAMS [F.] said that arising out of these remarks there was another question which was brought very forcibly home to him, and it was probably familiar to many of them. In the city of Manchester an architect had but the other day let judgment go by default, and he was made responsible for dry-rot in a building which appeared to have been built some years ago, and he had even consented to judgment against himself. He could not help thinking that it was a great pity that that case was not fought out, because he could not understand a jury ever agreeing to such a thing. He did not consider the architect ought to have agreed to that, for how could a man possibly guarantee that a building that he may erect to-day would not in some few years' time be subject to dry-rot?

The PRESIDENT said he quite agreed with every word Mr. Hubbard had said. This was an extremely important question to architects. But with regard to the case Mr. Adams was alluding to, he himself had gone down to Manchester to give evidence, together with other architects—with Mr. Hubbard in fact and in consultation with the defendant's counsel it was considered wise to settle the matter out of court.

Mr. HUBBARD said that he thought the President's action on that occasion was extremely good. It was his wise counsels that prevented a very much more serious result. The Meeting might take it from him (Mr. Hubbard) that the course adopted was the only one that was open, and it was entirely due to the energy of the President that a comparatively happy result had been brought about.

Mr. EDWIN T. HALL said that, with regard to the liability of architects, this was not a matter that had been overlooked. He personally had had two interviews with their own solicitors to see if it were possible to get something to protect architects from the dangers to which they were liable. He was however advised that it was impossible. The architect undertook a duty, and a client could not punish him if he had used due diligence. If a builder did something which was not proper behind the architect's back, unless it was a thing he ought to have seen and could have seen, it was very difficult indeed for the client to do anything against the architect. But architects were liable under the common law; no matter what contracts they

made, they could not get over the general law of the land, which made them and made solicitors equally liable if there had been serious negligence. That was a grave difficulty. Their legal advisers said that there were no words they could introduce into any contract which would absolve them from their liability to exercise their profession with care and assiduity in the interest of their client. It was impossible to go beyond that.

Mr. MAX CLARKE [F.] said he should like to impress upon Mr. Woodward that the Science Committee were not attempting to relieve him of his responsibility with regard to Portland cement. What Mr. Hall had said just now applied absolutely. If Mr. Woodward or any other architect in the room took the trouble, they could get the best Portland cement at the present time without any difficulty, if they saw to it themselves or through their representative. They could see in London at the present time bags of cement, with the Associated Portland Cement Company's initials on them, containing cement from Belgium. All that the Committee thought they could do would be to get the reputable firms of cement makers to put lead seals on the bags, and to try in that way to make it possible to identify them. But they could identify them at the present moment. They could always settle where the cement was to come from. He thought, if they wanted a good article, surely it was better to go to a firm where they knew it could be got than to trust to their builder going to a firm that they knew nothing about. The Science Committee had applied to the Chamber of Commerce to see if they could not get this settled through them, but nothing they could do would relieve the architect of responsibility with regard to Portland cement or any other material. The matter was in his own hands. With regard to the form of contract, Mr. Hall had overlooked the one point about which a great many architects differed from him—viz. that the architect did undertake to do a lot, and that it could be clearly defined without the slightest difficulty that he should not undertake to do too much. The architect undertook an unknown quantity, and the client frequently expected him to go and inspect the work every week, or even more often. Perhaps Mr. Hall could say whether that was part of his duty. If it were settled between the architect and the client that the former should go once a fortnight, and that the client should provide a clerk of the works, that would be one thing. But many clients would say that they could not afford a clerk of the works, and that the architect must look after the work, and the architect weakly consented. Then, of course, he was incurring considerable responsibility.

The President said that as regards the matter brought up by Mr. Hubbard, he thought that the Council should very seriously consider the whole question at an early date, and no doubt they would do so.

The motion for the adoption of the Report was then put, and carried unanimously.

## MINUTES. XIII.

At the Seventy-fourth Annual General Meeting (being the Thirteenth General Meeting of the Session 1907-08), held Monday, 4th May 1908, at 8 p.m.—Present: Mr. Thomas E. Colclutt, *President*, in the Chair; 26 Fellows (including 9 members of the Council), 30 Associates (including 2 members of the Council), and 1 Hon. Associate—the Minutes of the Meeting held Monday, 13th April [p. 388], were taken as read and signed as correct.

The President announced that Mr. Alexander Graham, F.S.A. [F.], having been nominated for the Hon. Secretaryship, Mr. John Slater [F.], the Council's nominee, had withdrawn his candidature.

The President expressed strong condemnation of the action of a member of the Council in sending to members of the Institute a letter referring in reprehensible terms to the Council's nomination to the Hon. Secretaryship.

The decease was announced of James Roger Bramble, F.S.A. *Hon. Associate*, elected 1894; Ernest Carritt, *Associate*, elected 1874; Frederick Todd, *Fellow*, elected 1890; Robert Frank Vallance, *Fellow*, elected 1891.

The following Associates attending for the first time since their election were formally admitted by the President, viz.:—Frederick Ernest Pearce Edwards, Herbert Langman (Southport), and Charles Woodward.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election:—**As FELLOWS** (23): John Brooke [A.] (Manchester); Alfred Morris Butler [A.]; Edmund Butler (Birmingham); Arthur Harold Church; Charles Richmond Rowland Clark; Frederick Arthur Crickmay; Harry William Crickmay; Alfred Herbert Coyle; Joseph Crouch (Birmingham); Arthur Joseph Davis; Frederick Ernest Pearce Edwards [A.] (Bradford); Frank Minshall Elgood [A.]; George McLean Ford [A.]; William Alexander Harvey (Birmingham); Arthur Campbell Martin; George Andrew Paterson (Glasgow); Winter Hargreaves Raffles; Ernest Augustus Runtz; David Salmond (Glasgow); Rupert Savage (Birmingham); John Stewart (Glasgow); John Watson (Glasgow); John Willcocks (Rajputana, India). **As ASSOCIATES** (3): John Jackson Beck [*Probationer* 1901, *Student* 1904, *Qualified* 1907] (Toronto, Canada); Samuel Buttery Birds [*R.I.B.A. Colonial Examination* 1907] (Toronto, Canada); Harry John Venning [*Special Examination* 1907]. **As HON. ASSOCIATE**: Gerald Edward Moira, Professor of Painting at the Royal College of Art. **As HON. CORRESPONDING MEMBER**: Julien Guadet, Government Architect, Inspector-General of Civil Buildings and National Palaces, Professor of the Theory of Architecture at the Ecole des Beaux-Arts, Paris.

The President having formally presented and moved for adoption the Annual Report of the Council for the official year 1907-08, the motion was seconded by Mr. Leonard Stokes, *Vice-President*.

Mr. Wm. Woodward [F.] having reviewed the Report at length, some of the points raised by him were answered by Mr. Edwin T. Hall, *Vice-President*, and Mr. John W. Simpson, Chairman of the Art Standing Committee.

Mr. George Hubbard, F.S.A. [F.], having referred to the responsibilities of architects and their liabilities at law, and suggested the modification of the Institute Schedule, or the introduction therein of some protective clauses, so that the architect might be relieved from an unlimited liability, the President stated that the Council would doubtless take the matter into consideration.

The motion for the adoption of the Annual Report having been put from the Chair, the Meeting unanimously

**RESOLVED**,—That the Annual Report of the Council for the official year 1907-08 be adopted.

On the motion of the President, a vote of thanks was passed to Messrs. H. P. Burke Downing [F.] and A. W. Sheppard [A.] for their services as Hon. Auditors, and Messrs. Henry Tanner, jun. [F.], and A. W. Sheppard [A.] were nominated Hon. Auditors for the ensuing year.

The Meeting authorised the Council to appoint Scrutinisers to direct the election of the Council and Standing Committees for the year of office 1908-09, and to report the result thereof to the Business General Meeting of the 1st June.

On the motion of the Chairman, a vote of thanks was passed to the Statutory Board of Examiners for their services during the past year, and members of the Board were reappointed to serve for the ensuing year.

The proceedings then closed, and the Meeting separated at 9.45 p.m.



9 CONDUIT STREET, LONDON, W., 9th May 1908

## CHRONICLE.

### THE ANNUAL ELECTIONS.

The President, in opening the proceedings at the General Meeting last Monday, stated that it had been brought to his notice that a circular letter emanating from a member of the Council and relating to the Council's nomination for the Hon. Secretaryship had been sent out to some members of the Institute. He had not seen the letter himself, but he had been shown extracts from it containing expressions which he considered most reprehensible. He thought it a great pity that letters should be sent round the profession reflecting on the action of the Council in this way. Such a proceeding was much to be deplored—indeed, when a member of the Council was responsible for it the word “deplored” was not strong enough condemnation. He could not help feeling that actions of this kind showed a spirit of disloyalty towards other members of the Council that should not exist.

#### New Nominations.

The following nominations have been made by members in accordance with By-law 30:—

#### As Hon. Secretary:

**ALEXANDER GRAHAM** [F.], F.S.A., *Hon. Secretary*.  
Nominated by Arthur B. Plummer [F.], H. G. Badenoch [F.], Jas. T. Cackett [F.], Joseph Oswald [F.], F. W. Rich [F.], R. Burns Dick [F.], Henry C. Charlewood [F.], J. Walton Taylor [F.], W. H. Knowles [F.], Andrew K. Tasker [A.], J. C. Maxwell [A.], J. Berkeley Cubey [A.].

#### As Members of Council:

**MAURICE BINGHAM ADAMS** [F.].

Nominated by T. E. Collett [F.], Royal Gold Medallist, President; Sir R. Rowland Anderson, LL.D. [F.]; Sir Thomas Drew, LL.D. [F.], President of the R.I.A., Dublin; Sir John Taylor, K.C.B. [F.], Past Vice-President; Sir Henry Tanner, I.S.O. [F.]; James S. Gibson [F.], Vice-President; Wm. M. Fawcett, M.A. [F.], F.S.A., Past Vice-President; Edward Augustus Gruning [F.], Past Vice-President, Member of Council; Alfred W. S. Cross, M.A. [F.], Member of Council; William Flockhart [F.], Member of Council; J. Alfred

Gotch, F.S.A. [F.], Member of Council; Charles Edward Mallows [F.], Member of Council; William Alfred Pite [F.], Member of Council; Rowland Plumbé [F.], William Edward Riley [F.], G. H. Fellowes Prynne [F.], Professor F. M. Simpson [F.].

**HENRY PHILIP BURKE DOWNING** [F.].

Nominated by Wm. Flockhart [F.], H. V. Lanchester [F.], C. E. Mallows [F.], William A. Pite [F.], H. Selden Wornum [F.], E. Guy Dawber [F.], Alfred C. Houston [A.], Sidney K. Greenalade [A.].

**ARTHUR RUTHERFORD JEMMETT** [F.].

Nominated by Alfred W. S. Cross [F.], Albert W. Moore [F.], W. G. Wilson [F.], H. V. Lanchester [F.], F. Chatterton [A.], John Anderson [A.], K. Gammell [A.].

**BROOK TAYLOR KITCHIN** [F.].

Nominated by David Barclay Niven [F.], T. Edwin Cooper [F.], William Gilmour Wilson [F.], Herbert H. Wigglesworth [F.], Robert Watson [F.], S. B. Russell [F.], Walter Millard [A.].

**TEMPLE MOORE** [F.].

Nominated by S. B. Russell [F.], Robert Watson [F.], T. Edwin Cooper [F.], F. W. Troup [F.], Ernest Newton [F.], Arthur Keen [F.], Geo. H. Fellowes Prynne [F.], Walter Millard [A.], Winton Newman [A.].

**JOHN SLATER, B.A. Lond.** [F.].

Nominated by Thos. E. Collett, President; Henry T. Hare [F.], Edw. A. Gruning [F.], Edwin T. Hall [F.], J. A. Gotch [F.], James S. Gibson [F.], W. Curtis Green [A.].

**WILLIAM GILMOUR WILSON** [F.].

Nominated by A. R. Jemmett [F.], R. Stephen Ayling [F.], Alfred W. S. Cross [F.], H. V. Lanchester [F.], F. Chatterton [A.], Arnold S. Tayler [A.], John Anderson [A.], K. Gammell [A.].

**WILLIAM WOODWARD** [F.].

Nominated by Charles Herbert Shoppee [F.], Oswald C. Wilson [F.], Arthur F. Usher [F.], Rowland Plumbé [F.], A. Sykes [F.], Francis J. Sturdy [A.], Arthur W. Cooksey [A.].

#### As Associate Members of Council:

**KENSINGTON GAMMELL** [A.].

Nominated by Albert W. Moore [F.], Alfred W. S. Cross [F.], R. Stephen Ayling [F.], W. G. Wilson [F.], H. V. Lanchester [F.], A. R. Jemmett [F.], Arnold S. Tayler [A.], F. Chatterton [A.].

**HERBERT WINKLER WILLS** [A.].

Nominated by David Barclay Niven [F.], William Gilmour Wilson [F.], Brook Kitchin [F.], Herbert H. Wigglesworth [F.], W. Chas. Waymouth [F.], John Anderson [A.], Arthur Wm. Kenyon [A.].

#### As Member of the Art Standing Committee:

**EDWIN ALFRED RICKARDS** [F.].

Nominated by A. R. Jemmett [F.], Alfred W. S. Cross, Albert W. Moore [F.], H. V. Lanchester [F.], R. Stephen Ayling [F.], W. G. Wilson [F.], John Anderson [A.], Alan E. Munby [A.], Arnold S. Tayler [A.], K. Gammell [A.], F. Chatterton [A.].

#### As Member of the Practice Standing Committee:

**GEORGE ERNEST NIELD** [F.].

Nominated by A. Burrell Burnell [F.], H. V. Lanchester [F.], Horace J. Heledon [F.], James S. Gibson [F.], Alfred W. S. Cross [F.], A. R. Jemmett [F.], Raymond T. Barker [A.].

*As Members of the Science Standing Committee :*

ALBERT WALTER MOORE [F.].

Nominated by H. V. Lanchester [F.], Alfred W. S. Cross [F.], R. Stephen Ayling [F.], A. R. Jemmett [F.], F. Chatterton [A.], K. Gammell [A.], Alan E. Munby [A.].

ALAN EDWARD MUNBY, M.A. Cantab. [A.].

Nominated by Alfred W. S. Cross [F.], Albert W. Moore [F.], W. G. Wilson [F.], R. Stephen Ayling [F.], A. R. Jemmett [F.], Arnold S. Taylor [A.], F. Chatterton [A.], John Anderson [A.], K. Gammell [A.].

Mr. John Slater [F.] has retired from candidature for the Hon. Secretaryship, and has accepted nomination as Member of Council [see above].

**Special Elections to Fellowship.**

At the meeting of the Council last Monday the following candidates were elected to Fellowship under the proviso to By-law 9, viz. :—

MOWBRAY ASTON GREEN [A.], President of the Bristol Society of Architects, 5 Princes Buildings, Bath.

EDGAR HINTON FAWCKNER, President of the Carlisle, South Wales, and Monmouthshire Architects' Society, 41 High Street, Newport, Mon.

**The President's "At Home."**

The President's second "At Home" this Session was given at the Institute on Tuesday evening, the 28th ult. In spite of the unfavourable weather conditions the function was as usual well attended, members being present from all parts of the country. By the courtesy of Mr. Dare Clapham, the President had been able to arrange for the evening an interesting exhibition of drawings and photographs representative of the late Mr. E. W. Mountford's executed works. The collection included several drawings, perspective views, of the exterior and of various parts of the interior of the New Sessions House, Old Bailey. Especially noteworthy were some fine water-colour interiors by Mr. S. D. Adshead. Other exhibits were drawings and photographs of the Town Halls of Battersea, Lancaster, and Sheffield; the Museum and Technical Schools, Liverpool; the Northampton Institute, Clerkenwell; Battersea Polytechnic; St. Olave's Grammar School; Sheffield Union and New Ward; Nunstead Grange, the residence Mr. Mountford built for himself at Godalming. Mr. E. A. Gruning kindly lent plans and views of the Northern Assurance Company's Offices, Lothbury. Another interesting exhibit was the perspective view of the river front of Mr. Mountford's design for the London County Hall submitted in the recent competition.

**Diploma in Architecture at Cambridge.**

The syndicate appointed to consider the desirability of instituting in the University of Cam-

bridge a diploma in architecture have considered the remarks made by members of the Senate at the discussion on 30th January, and now present to the Senate the following amended report :—

With regard to the possibility of framing a complete scheme of work, part of which would be post-graduate, leading up to some final test which might or might not carry with it a diploma, the syndicate are not unanimous. They adhere to their proposal of a preliminary examination in subjects connected with architecture divided into two parts, the first dealing with the mathematical and scientific principles on which the practice of architecture is based, the second part comprising the history and theory of architecture and the allied arts. They think that an appropriate title for the examination would be "Examination in Preliminary Architectural Studies." They propose that the examinations should be held twice a year and should be under the general management of the Board of Examinations; that one or both parts should be open to candidates who have kept three terms, but that a candidate should not offer himself for examination in more than one part in the same term, unless he has previously kept eight terms and has entered on his ninth term at least. They further suggest that a candidate who has obtained honours, or been allowed the ordinary degree in the Mechanical Sciences Tripos, or has passed in Parts I. and II. of the Special Examination in Mechanism and Applied Science, shall be exempt from Part I. of the Examination in Preliminary Architectural Studies.

The syndicate anticipate that the proposed examination would be suitable for various classes of candidates. They have, in deference to criticisms of members of the Senate, reconsidered their suggestion that it should be added to the number of special examinations for the ordinary degree, and they now propose that the examination should be one which may be taken during or at the end of any of the regular courses leading to graduation, and that it should not entitle to a degree except in the case of those who have taken honours in a part of any tripos examination or in one section of the Medieval and Modern Languages Tripos (New Regulations). It is to be noted that a student who has obtained honours in his second year in parts of certain triposes is now entitled to his degree at the end of the third year without further examination, provided that he presents a certificate or certificates "showing that he has, during the terms required to be kept subsequent to the term in which he obtained honours, diligently pursued a course of study in the University." It would be open to such students to qualify for a degree during their third year by attendance on courses connected with the subject of the proposed preliminary examination in architectural studies, and they might take one or both parts of the examination in the course of their third year. The syndicate propose that no candidate shall be entitled to a certificate that he has passed the examination until he shall have qualified for a degree.

So far as concerns the class of students who from the beginning aim only at an ordinary degree, it might be only the more intelligent or the more energetic of them who could pass both a special examination and the two parts of the architectural examination by the end of their third year, and in their case one or both parts of the architectural examination would be deferred till after graduation.

### The Concrete Institute.

Particulars are to hand of a newly formed association, to be known as "The Concrete Institute," which is stated to be the outcome of a demand among the professional and industrial interests concerned to have some centre for discussion, investigation, and research work. Its objects are to advance the knowledge of concrete and reinforced concrete, and direct attention to the uses to which these materials can be best applied; to afford the means of communication between persons engaged in the design, supervision, and execution of works in which concrete and reinforced concrete are employed (excluding all questions connected with wages and trade regulation); to arrange periodical meetings for the purpose of discussing practical and scientific subjects bearing upon the application of concrete and reinforced concrete; and to conduct such investigations and to issue such publications as may be deemed desirable. The President is the Earl of Plymouth [*H.A.*], lately First Commissioner of Works; the Vice-Presidents, Sir Wm. Preece, Sir Henry Tanner [*F.*], and Sir Wm. Mather. The Council, which is representative of the interests concerned, consists of twenty members, and numbers, among others, Mr. Wm. Dunn [*F.*] and Mr. Charles F. Marsh, members of the Joint Reinforced Concrete Committee whose Report was recently brought before the Institute. The Chairman of the Executive is Mr. Edwin O. Sachs. Members are to consist of persons professionally or practically engaged in the application of concrete or reinforced concrete and the production of their constituents; and persons of scientific, technical, or literary attainments specially connected with the application of concrete, reinforced concrete, and their constituents. The temporary offices of the Society are at 1 Waterloo Place; Mr. H. Kempton Dyson, Secretary.

### Fire-Resisting Properties of Reinforced Concrete.

The fire-resisting properties of reinforced concrete as applied to construction work are clearly demonstrated by a fire which occurred in some premises devoted to motor-car work at Dayton, Ohio, and reported in a recent issue of the *Engineering Record*. The main portion of the factory consists of a mill-construction building of five stories and basement, adjoined by a reinforced concrete building erected during the summer of 1907. The system of reinforcement employed was a combination of the Kahn trussed bar, the cup bar, and the Kahn expanded metal. The only feature of the building which was not absolutely fireproof was the window frames and sash, which were of the ordinary wood construction. On 21st February fire broke out on the fourth floor of the concrete building. The fire soon spread over the entire floor of that building, and, not being impeded in its progress by fire doors between the new and old

erection, the flames were soon communicated to the old building, where the greatest damage was done. The fire burned itself out on the fourth floor of the new building, and in burning out the window frames and sash the flames licked outward and upward, and in some few instances burned the sash out of the windows above on the fifth floor, but not so seriously as to cause any great damage. It was not long before the fire was confined to the old building, and in less than three hours the fourth and fifth floors and roof had fallen down on to the third floor a charred mass of ruins. The fire was stopped at this point, but the building is a wreck. The heat under the ceiling of the fourth floor of the concrete building was so intense that some iron pipes were bent completely out of shape, in some instances having sagged down to the floor. It is interesting from the manufacturers' standpoint to know that within two days after the fire the machinery was running in this building and operations were resumed. In order to ascertain whether the structure had been damaged to any extent or had been weakened by the fire, it was decided to make a load test on the floor above that on which the fire originated. The building was designed for a live load of 120 lb. per square foot, and the girder over which the test was made had a span of 22 feet. Equal areas on both sides of this girder were loaded so as to give a uniformly distributed load. The area covered was 352 square feet, on which were piled 77,250 lb. of pig iron and other heavy material. This gave a uniformly distributed load of about 218 lb. to the square foot, and under this load the girder in question showed a deflection of only  $\frac{1}{4}$  in. at the centre of the span.

### Regulations for Reinforced Concrete Construction.

Messrs. W. H. Seth-Smith [*F.*] and Munro, in a letter to *The Times* regarding its recent article on "Regulations for Reinforced Concrete Construction," say: "It is indeed time that the attention of the community was directed to the vast financial loss, to say nothing of the loss of floor area, which it sustains owing to what your correspondent describes as disgraceful, antiquated regulations which exclude this new and economical method of building—a method recognised by all the progressive nations as an epoch-making invention as regards building construction. By Sir Henry Tanner's courtesy, we have closely followed the constructive principle and the progress of the new buildings of the General Post Office in London, and after witnessing the remarkable structural feats there accomplished by the most simple but strictly scientific means, and realising that by the adoption of reinforced concrete a saving of 20 per cent. in the cost has been effected for the Government, we, in common with a large number of architects, feel aggrieved that our clients should be debarred equal advantages owing to a want of more enlightened

and progressive building regulations. Your correspondent refers to a large building in the south of London as the first in the erection of which the London County Council have relaxed the restrictive provisions of the Act in favour of reinforced concrete, but we are erecting a factory in the West district in which we have obtained the consent of the Council to construct all its external walls, not in reinforced concrete, but of steel framing filled in with brickwork of uniform thickness (sufficient to exclude damp) from the basement to the fourth floor."

#### The Architects' Benevolent Society.

The T-Square Club are organising a concert in aid of the funds of the Architects' Benevolent Society, to be held at the King's Hall, Holborn Restaurant, on Wednesday, 3rd June. The Presidents and Councils of the Institute, the Architectural Association, and the Society of Architects have accorded their patronage to the project, and among other distinguished patrons are the past and present Commissioners of H.M.'s Works, the Earl of Plymouth, Mr. Lewis Harcourt, M.P., Mr. Akers Douglas, M.P., and Sir Schomberg K. McDonell. The preliminary list of artistes who have kindly promised to take part include Miss Margaret Cooper, Miss Lois Tanner, Miss Effie Cooke, Miss Maude Clarke, Mrs. A. H. G. Patey, Mr. Arthur Royd, Mr. Walter Ivimey, Mr. Alec Van, Mr. Laurence Baskcomb, Mr. George Parlbly, and Miss Vickers' Amateur Orchestra. A Musical and Dramatic Sketch, written and composed by Sydney Fane, will be performed for the first time by Mr. Clarence Brown and Miss W. G. Lennard. Tickets, 5s. and 2s. 6d., may be obtained from the Librarian of the Institute, the Secretary of the Architectural Association, the Secretary of the Society of Architects, and from Mr. W. J. H. Leverton, 10 Lancaster Place, Strand, who is arranging the concert, and to whom all inquiries should be addressed. A dinner is to take place the same evening at 6.30: tickets 4s., to be had of the above.

#### Discovery of Byzantine Mosaics.

Some Byzantine mosaics have been discovered in the church of Santa Sofia at Salonica which had been covered (as is the practice in churches under Mussulman rule) with rude paintings in oil and paper bearing inscriptions from the Koran. This discovery is due to a French architect, M. Le Tournieu, who has cleaned the mosaics and restored them to their original splendour. The mosaics of the central cupola appear to belong to the middle of the eighth century, and are of a primitive character. The figure of the Madonna in the apse is apparently of the same date.—JOHN HERR [R.F.].

## REVIEWS.

### MODERN BUILDINGS.

*Modern Buildings: Their Planning, Construction, and Equipment.* By G. A. T. Middleton [A.], assisted by a specially selected staff of contributors. In Six Volumes. 10s. 6d. per vol. net. [The Caxton Publishing Company, Surrey Street, W.C.]

This work, viewed from the standpoint of scope alone, covers a wider range than any other of its class, and it is hardly possible to speak too highly of it. The title is sufficient indication of the author's ambition, and the exhaustive—one might almost say analytical—treatment of a subject which embraces nearly the whole of modern architectural practice is in every sense a welcome departure from the superficial and discursive method unfortunately too prevalent among writers of technical books.

The work consists of six quarto volumes, and it is in the manner in which Mr. Middleton has distributed throughout their well-printed pages the mass of information he had accumulated that he has shown his gift for discrimination.

To the practising architect the most valuable feature of the work is the series of articles (illustrated with plans and working drawings, many of which are in colour) on various classes of buildings, such as dwelling houses, schools, hospitals, libraries, baths, municipal buildings, churches, theatres, hotels, stables, &c., each being sufficiently complete to be of real use to the designer. Constructional details, heating, lighting, ventilation, and a host of other subjects intimately related to buildings generally occupy as many chapters, and all are illustrated with uniform excellence.

There are also fully illustrated and in other respects valuable chapters on steel construction and fire-resisting construction, information on the law of easements, and a very ample treatment of specification writing and quantities.

That most bewildering of all constructional methods, armoured concrete, is accorded a deservedly prominent position. To the old-fashioned practitioner the complexity of this very novel application of concrete is fast becoming a nightmare. The ancient traditions of building are threatened with destruction, and the arch as a constructive device, consisting of separate and mutually supporting parts, bids fair to become but a memory, bearing the same relation to its ferro-concrete equivalent as the illuminated manuscript does to the cylindrical printing machine.

In volumes v. and vi. will be found sections respectively devoted to South African and Australian planning and construction, in which connection the reviewer would like to point out that, as regards the former, the majority of the buildings illustrated are entirely false, so far as they suggest masonry construction, the walls being merely stucco-faced.

The section dealing with office practice and draughtsmanship (volume i.) includes specimen

alphabets and certain hints as to their application. The contributor quite truly says "the wrong sloped-stroke of 'Y' is frequently thickened," and, presumably in order to establish his *bona fides*, makes that identical error himself in his "Sheet of Modern Lettering." A comparison of his U, V, and W with the corresponding letters on the "Sheet of Renaissance Lettering" shows that in these instances also the same mistake occurs. Revision is needed here.

Many well-known writers on technical and legal subjects have contributed to the making of this comprehensive work, which will be found of value for reference to the student, the architect, and the builder alike.

FREDERICK CHATTERTON [A.].

## COMPETITIONS COMMITTEE.

### Ilford Emergency Hospital.

The following correspondence relating to the Ilford Emergency Hospital Competition is published by request of the Competitions Committee:—

R.I.B.A., 9 Conduit Street, W. 28th March 1908.

B. Henderson, Esq., Hon. Secretary, Ilford Emergency Hospital.

DEAR SIR,—At a meeting of the Competitions Committee of the Institute letters were read from several architects drawing the attention of the Committee to the answers to questions issued by you under date of 12th instant in which for the first time the fact is disclosed that the Assessor is not an architect but a medical man.

In every important competition that has been held for many years past throughout the kingdom the Assessor has been an architect of established reputation as defined in the printed "Regulations for Architectural Competitions" issued by the R.I.B.A. The Committee have reason to believe that practically every architect who contemplated entering on this competition was under the impression that the Assessor referred to in the original instructions was an architect.

The Committee note that in this case the Assessor whom the Governors have appointed is Dr. Greene, and I am authorised to assure the Governors that we have not a word to say against this gentleman professionally.

While the Committee would in ordinary circumstances have pressed for the appointment of an architect alone as Assessor, in the special circumstances of this case they would urge upon the Governors that in the interest both of the Governors and of the competitors the advice of an architect in such a matter is of great importance. They would therefore urge that some architect of

standing should be associated with Dr. Greene in advising the Governors.

It is in the interest of the Governors, because necessarily an architect must be better acquainted with the architectural design, including planning and construction, and with the relative cost of buildings, while Dr. Greene would still advise on the medical side. From the competitors' point of view they would be assured that from the technical side their projects would have expert consideration.

The Committee are sure that it is the desire of the Governors to show every consideration to competitors, who will expend a very large sum of money in submitting schemes to the Governors, and that their interests should therefore be carefully guarded; while it is believed that the Governors will also realise that the suggestion made is one that will help them.—I am, dear Sir, yours faithfully,

IAN MACALISTER,  
Secretary R.I.B.A.

Ilford Emergency Hospital : 16th April 1908.

Ian MacAlister, Esq.,—

DEAR SIR,—I am requested by the Governors to inform you that, in order to give effect to your Committee's suggestion, Dr. Greene has withdrawn from the Assessorship in the Design Competition, and that, on the nomination of your President, Mr. H. Percy Adams has been appointed in his place.—Thanking you for your assistance in the matter, I am, yours faithfully,

B. HENDERSON, Hon. Sec.

P.S.—Enclosed is a copy of notice being sent to competitors.

### Acton Council Offices.

The following letter has been addressed to those members of the Institute who took part in the competition for the Acton Council Offices in spite of the expressed wishes of the Council on the subject:—

15th April 1908.

DEAR SIR,—Your letter of the — has been submitted to the Council, who direct me to write to you expressing their regret that you should not have thought well to respect a decision arrived at after mature consideration of all the facts and documents.—Faithfully yours,

IAN MACALISTER,  
Secretary R.I.B.A.

## SOURCES OF INSPIRATION IN MODERN ART.

By A. S. Dixon, M.A.Oxon. [F.]

*Read before the Art Workers' Guild at Clifford's Inn Hall, 1st November 1907.*

IT is comparatively easy to discern the mental and spiritual forces which are at the root of the artistic development of past ages whose history is complete, and has already been, as it were, classified and tabulated. It is much more difficult to do so in the case of our own time. We are still too near to the nineteenth century to be able to see clearly the meaning of its phenomena and the due proportion which belongs to their apparent psychological causes. Some of them are constant and common to other times; some are new and peculiar to our own.

By comparison with our ancestors of the eighteenth century we are much given to the study of nature; the great development of the natural sciences in the last century leaves this point beyond question. From our present point of view the growth of the sciences of botany and geology is most significant. In literature the same tendency finds expression in the poetry of Wordsworth and Tennyson, and in the prose of Ruskin, while the latter has made it clear what accurate, if only partly conscious, observation of botanical and geological phenomena underlay Turner's rendering of forest and mountain forms.

The whole of our great school of English landscape painting may be classified under this heading. Its reverent study of nature is in obvious contrast with the theatrical and artificial landscapes of the eighteenth century, and the full development of its power is in no less marked contrast with the exquisite beginnings of the Italian Renaissance. In the work of the pre-Raphaelite school the reverent study of nature has no small part. The more recent impressionist school, in the midst of which we still move, is too near to be accurately judged; its wonderful records of atmospheric effects strangely keep pace with scientific progress in the realm of air and ether; its rejection of the beauty of definite form is in suggestive harmony with some of the developments of the new theology.

Theology—the divine science, the science of heavenly things—has been one of the most constant sources of inspiration of the arts from the beginning; the mosaic-workers of Rome and Ravenna from the fourth to the twelfth century, the Lombards and Normans and Germans in the so-called Romanesque period, the French sculptors and builders in the thirteenth, and the Italian and Flemish and English painters in the fifteenth century, all sat at the feet of the divine science. After the Renaissance other influences gained pre-

dominance; in the eighteenth century the influence of theology on art had almost disappeared. What shall we say of the nineteenth?

The nineteenth century has felt the influences of two great revivals of religious enthusiasm: in the first half the Evangelical revival, and in the second half the Catholic revival, often called the Oxford Movement. How far have the arts been touched by these great spiritual movements?

I think it would be true to say that the earlier movement did not come into touch with the arts at all, but amongst types of mind different from that which was influenced by the Evangelical school of thought there arose what might be called a collateral tendency in the direction of natural religion, which found its clearest expression in literature, but which also, consciously or unconsciously, has its relation to the reverent, and sometimes almost devotional, study of nature which marked the great landscape school of painting.

The connection between the Oxford Movement and the pre-Raphaelite, though unofficial, will not be disputed. Some of the finest works of Rossetti, Holman Hunt, and Ford Madox Brown have subjects which deal with the relation of the divine and human life. I need only mention "The Girlhood of Mary Virgin," "Mary Magdalen at the Door of Simon the Pharisee," "The Scapegoat," "Christ in the Temple," "Christ washing Peter's Feet," "The Entombment." The same should be said of much of Burne-Jones's work, though I would rather say of all of it that it is from first to last an attempt to realise in terms of human life the ideals of the far-off heavenly city.

The effect of the Catholic revival on architecture is more definitely marked; not only was a very large number of new churches built under its influence, but the character of the internal arrangements was changed and modified. It is remarkable, however, that the expressive or spiritual side of architecture has shown less response to this influence than might have been expected. It would not be true to say that no sculpture or painting of first-rate quality has been done in connection with ecclesiastical architecture, but the work which has been done of this kind is surely not in proportion to the intensity of religious feeling which the century has seen.

Perhaps the most striking characteristic of nineteenth-century architecture has been its versatility or changeableness in the matter of style. Almost, if not quite, every past style has been tried in turn,

and in turn given up: Egyptian, Greek, Roman, Byzantine, Romanesque, Gothic, English, Dutch, French, and Spanish Renaissance are all represented in modern England. This eclecticism in style seems to connect itself with another side of mental activity—I mean the great amount of attention which has been given to the study of history, and a habit which has arisen of looking at things from the point of view of the historian.

Curiously enough, it seems likely that the historical method, when fully followed out, will reverse its first effects; for we are beginning to realise that, however the historic style which we envy was generated, it was not by imitating anything that had gone before.

During the latter half of the last century a deep feeling of disappointment began to make itself felt at the result of the great revival of the arts generally, and of architecture in particular, which had marked our time. In spite of all the skill, and all the learning, and all the enthusiasm, which were spent upon them, the buildings and the sculpture, the woodwork and the metal work, did not look right. It was this feeling of disappointment which was one of the chief roots of the revival of craftsmanship of which we are all witnesses. An unnatural separation had taken place between the designer or draughtsman and the workman, which was a natural outcome of commercial and industrial development, but which was seen to be fatal to the arts, especially on their expressive or spiritual side. The revival of craftsmanship had doubtless deeper roots than this, roots which take us back to what was most noble and most permanent in the aspirations which led to the French Revolution. The separation of society into classes, which was an essential part of the feudal system, does not fit at all neatly into the industrial organisation or disorganisation of society which has partly taken its place, and it is quite out of harmony with the realities, as well as the aspirations, of the republic of the arts.

In the last years of the century there appeared a new thing which for a time was called a new art. It had—or professed to have—new lines, new forms, and new colours. I remember some few years ago being asked, in almost bated breath, by a learned German professor what I thought of the new line, for which, he said, the world had been waiting since the fifteenth century. It is true that for a time wall papers, and book-covers, and tiles, and other necessary objects were pervaded with strange curly lines, and formless forms, and morbid tints of colour, which were sometimes so unhealthy and so

foul that it was easy to doubt if they might not be of infernal or diabolic suggestion. At any rate, it seems that the world, which had now so long brooded over the fair aspects of nature, could not keep its eyes always turned away from her ugly side. It was not enough to take the flowers, and herbs, and animals for our models; we must even take suggestion from the entrails which litter the floor of the slaughter-house. Many of the lines and forms used were suggestive of decadence and unnatural development. However, it seems that *l'art nouveau* was no more than a passing infection, of which the world is already nearly, if not completely, cured.

The study of history from an evolutionary point of view, the study of nature—which are peculiarly characteristic marks of the nineteenth century—the growth of democratic feeling, which had its beginning in the French Revolution, and theology, using the word in its widest sense, which is more or less constant in all ages of the Christian era, but which, at the same time, is a point which distinguishes the nineteenth from the eighteenth century—these seem to me the four principal influences which show themselves in connection with the development of modern art. The first has produced, perhaps, the greatest and most characteristic results of all; the influence of the second has been of doubtful benefit, and has already produced a reaction which we cannot but hope will in time produce a new and nobler style, more sincere and more fruitful than we have yet known. Theology has produced nothing so great as the Roman mosaics, the fifteenth-century school of painting, or the thirteenth-century school of sculpture in France; still it has given us no inconsiderable number of works of which we may be very proud. The democratic impulse has, I think, only just begun to make itself felt; its full development is still in the future. What line it may take we cannot yet tell. Trade-unionism, the labour movement, socialism, have in them some elements which are inimical to any great development of art, but they have others which give us our only real hope for the future.

In a happy development of democratic institutions we may find the solution of two great problems—the removal of two great obstacles—which at present stand in the way. For a real development of the arts it is necessary that all classes of the people should desire and be able to share in the acquisition of noble and sincere work, and still more that all classes should participate on terms of brotherly co-operation in their production.

## THE ROYAL PALACES OF SCOTLAND.

## SUPPLEMENTARY ILLUSTRATIONS.

By W. T. OLDRIEVE [F.].

AS only a few of the lantern illustrations which were given with the lecture at the Royal Institute on the 20th January last could be printed in the JOURNAL of the 25th January, it has been thought worth while, in response to inquiries, to publish a few further details of Holyrood Palace and Stirling Castle. These are now given in the accompanying plates:—

*Holyrood Palace.*

*Plates 1 and 2.*—The ceiling in the morning drawing-room, a general half-plan of which is shown on Plate 1 and details on Plate 2, is perhaps the finest of all the seventeenth-century plaster ceilings in the Palace. The apartment being of grand proportions—about 40 feet by 30 feet—the space affords scope to display the design with good effect. This can be seen better by reference to the general view from the photograph reproduced on p. 202 of the January JOURNAL. The geometrical setting-out is very effective, though quite simple, while the variety of shadow, due to the differing depths of the ornament, and the cleverly “undercut” modelling give a most pleasing sense of artistic merit, entirely overcoming the feeling of monotony so common in this class of plaster ceilings, where, as in too many cases of modern work, there is a total lack of interest by variety of play of light and shade. The boldness of the enrichment in some parts can be seen from Plate 2, the pendants of fruit and leaf depending more than 9 inches.

*Plate 3.*—A geometrical plan of the ceiling of the evening drawing-room, reproduced from a measured drawing.

*Plate 4* shows a spandrel panel of the ceiling of the Queen's bedroom. The double monogram “V.R.” is, needless to explain perhaps, only a modern addition in the way of surface decoration.

*Plate 5* gives very interesting details of the same ceiling. It is unfortunate that it was not found possible to reproduce the scale plan of the entire ceiling.

I have already stated that all these measured drawings were prepared by the senior students of

the Edinburgh School of Applied Art, and were kindly lent for the purpose of my Paper by the Board of Trustees for the National Galleries of Scotland. I ought, further, to state that Plates 1, 2, 4, and 5 are reproduced from pencil drawings by Mr. J. Gillespie, and Plate 3 from a pencil drawing by Mr. R. Campbell.

*Stirling Castle.*

*Plate 6.*—The Parliament House is here shown at the S.E. angle from sketches by Mr. J. E. Shearer, of Stirling. The upper view is reproduced from an early print, and shows the building before its mutilation at the hands of the Royal Engineers. The lower view shows it as it exists now, a pretty spectacle of the result of allowing military occupation of historic buildings.

*Plate 7* gives details of an oriel window at the S. end of the W. elevation of the Parliament House. The refined Gothic mouldings of this building by Robert Cochran, who died in 1481, is in striking contrast to the Palace of James V. adjoining, which was commenced before the close of the same century.

*Plates 8, 9, and 10* show the James V. Palace with its bold grotesque stonework. The principal figures are believed to be grotesque representations of contemporaneous characters, and even King James V. himself is thought to be caricatured by the figure at the E. end of the N. elevation, i.e. that to the upper courtyard. A sketch of this figure is given on Plate 10.

The iron gratings on the windows are said to have been added for the protection of James VI. in infancy. There is a story that a blacksmith from St. Ninians who did the work only got payment after the union of the Crowns, when he went up to London and got paid in pounds sterling instead of pounds Scots, i.e. twelve times the amount he was entitled to!

The illustrations of Stirling Castle on Plates 7 to 10 are reproduced from Small's *Architecture of Old Stirling*, with the publishers, Messrs. R. S. Shearer & Son's permission.

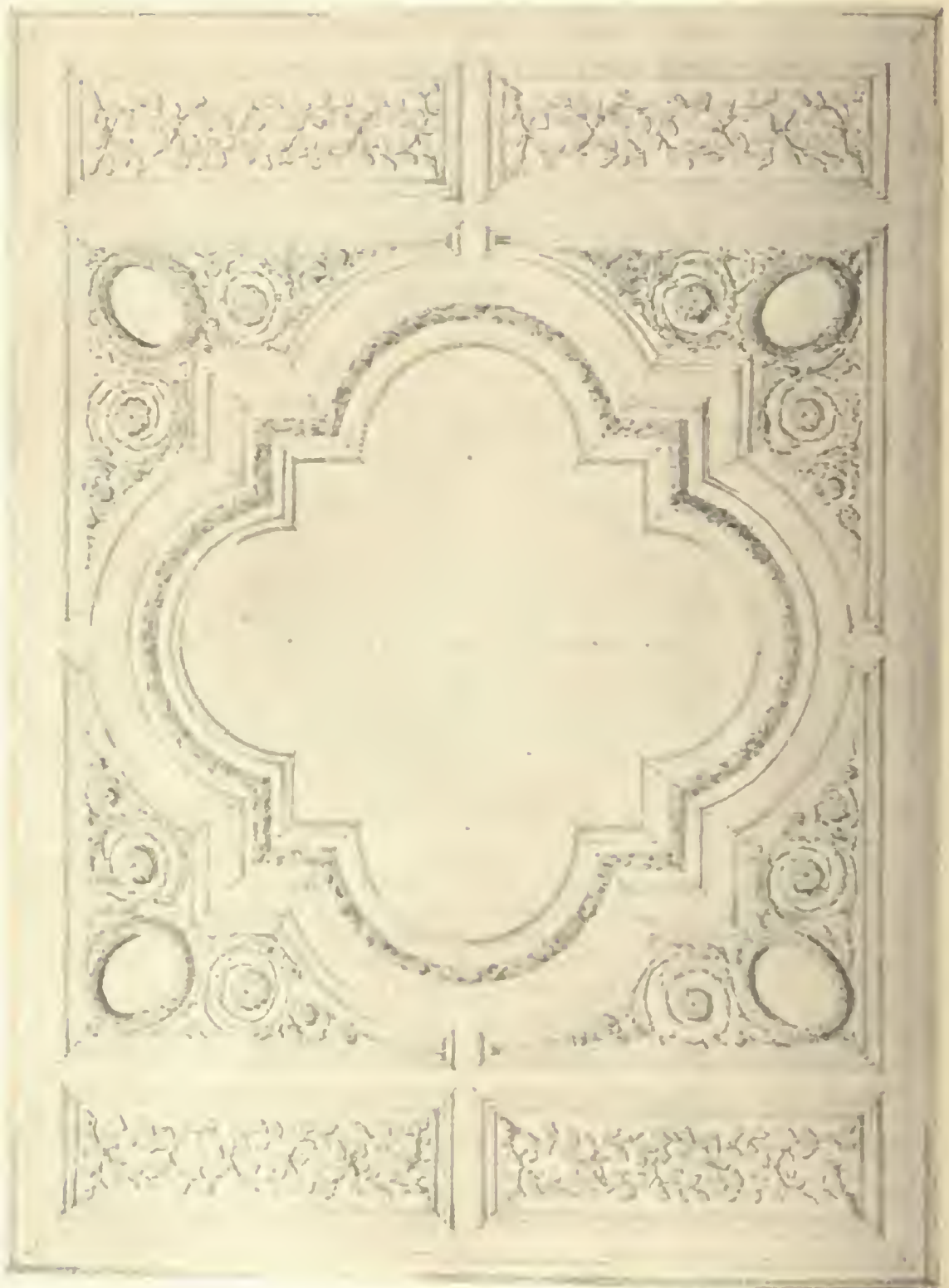
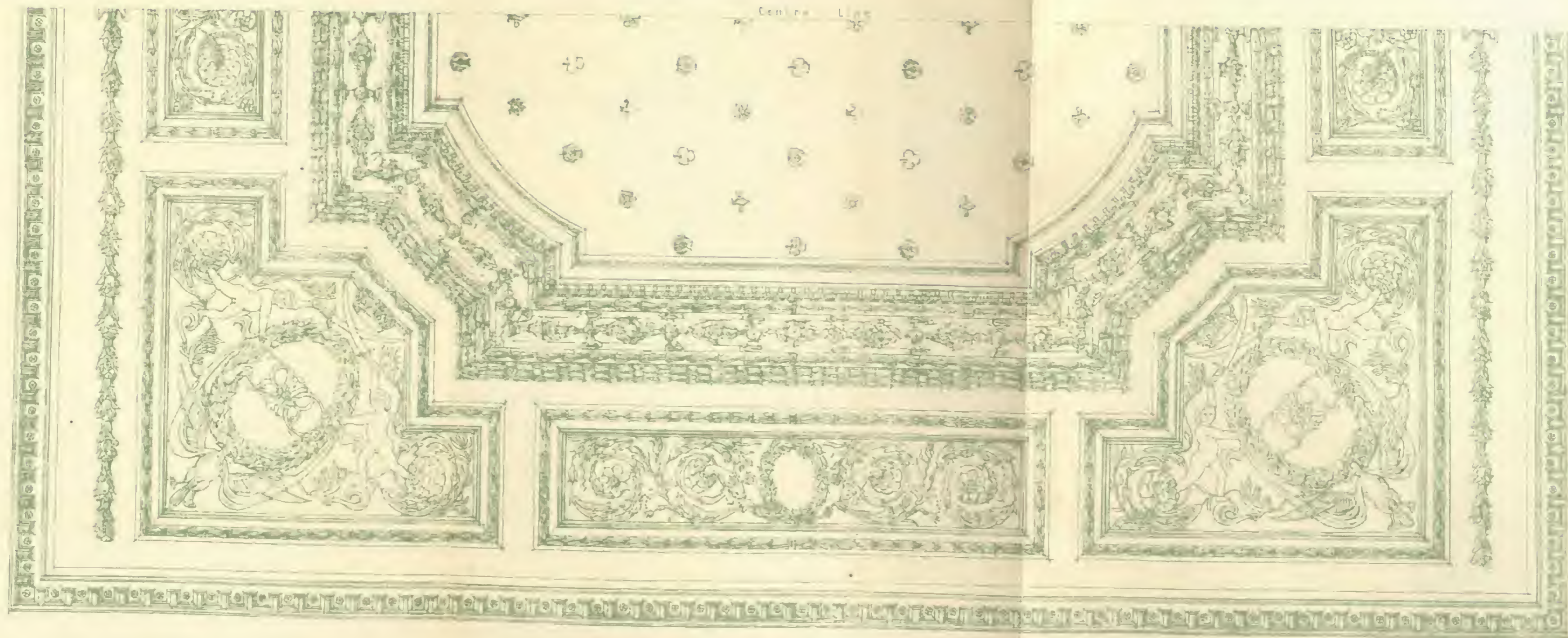
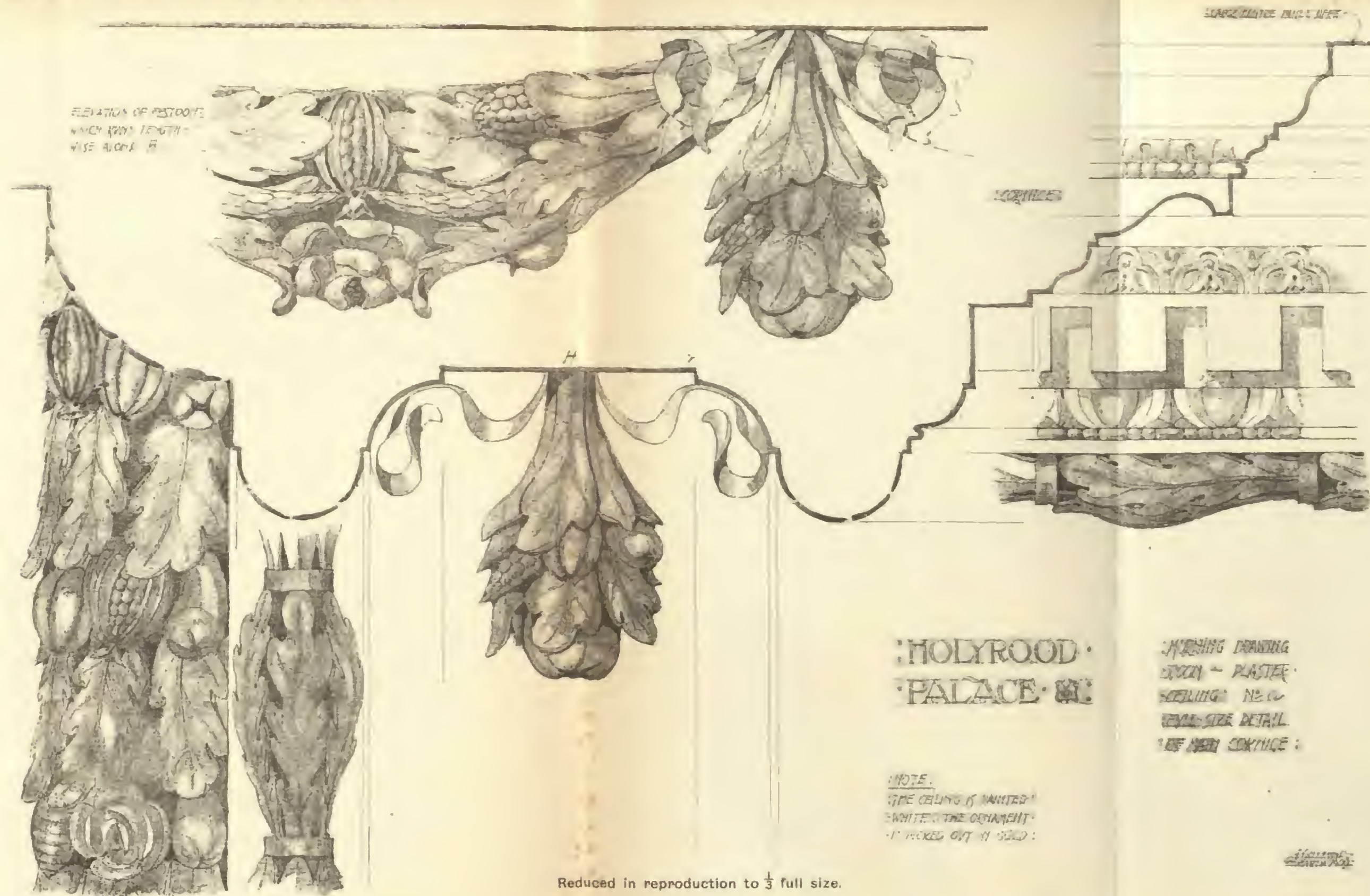


PLATE 1.—HOLYHED—ITALY—CEILING IN EVENING DRAWING-ROOM.



HOLYROOD PALACE: PART OF CEILING IN THE MORNING DRAWING ROOM





Reduced in reproduction to  $\frac{1}{3}$  full size.



# HOLYROOD PALACE

QUEEN'S BEDROOM.  
FIRST FLOOR: 1905.  
DETAILS OF PLASTER.  
CEILING - DRAWN  
HALF FULL SIZE.

MOULD ROUND  
SPANDRILS.

MAIN CORNICE  
SECTIONAL

VERGEMENT

OCTAGONAL

CENTRE PIECE  
DETAIL

PLAN OF SOFFIT  
LOOKING UP.

CIRCULAR PIECES  
BETWEEN SPANDRILS  
AT ENDS OF ROOM.

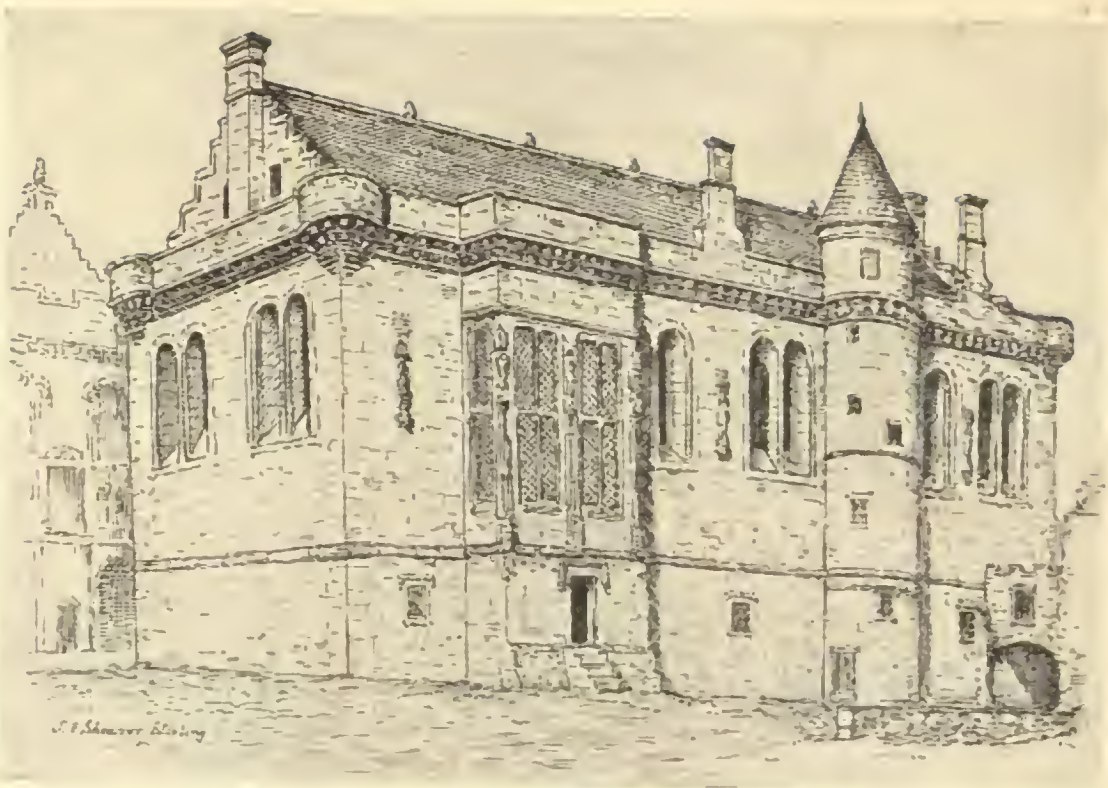
PANELS BETWEEN  
SPANDRILS AT  
SIDES OF ROOM.  
DRAWN QUARTER, FULL SIZE.

END OF  
CORNER

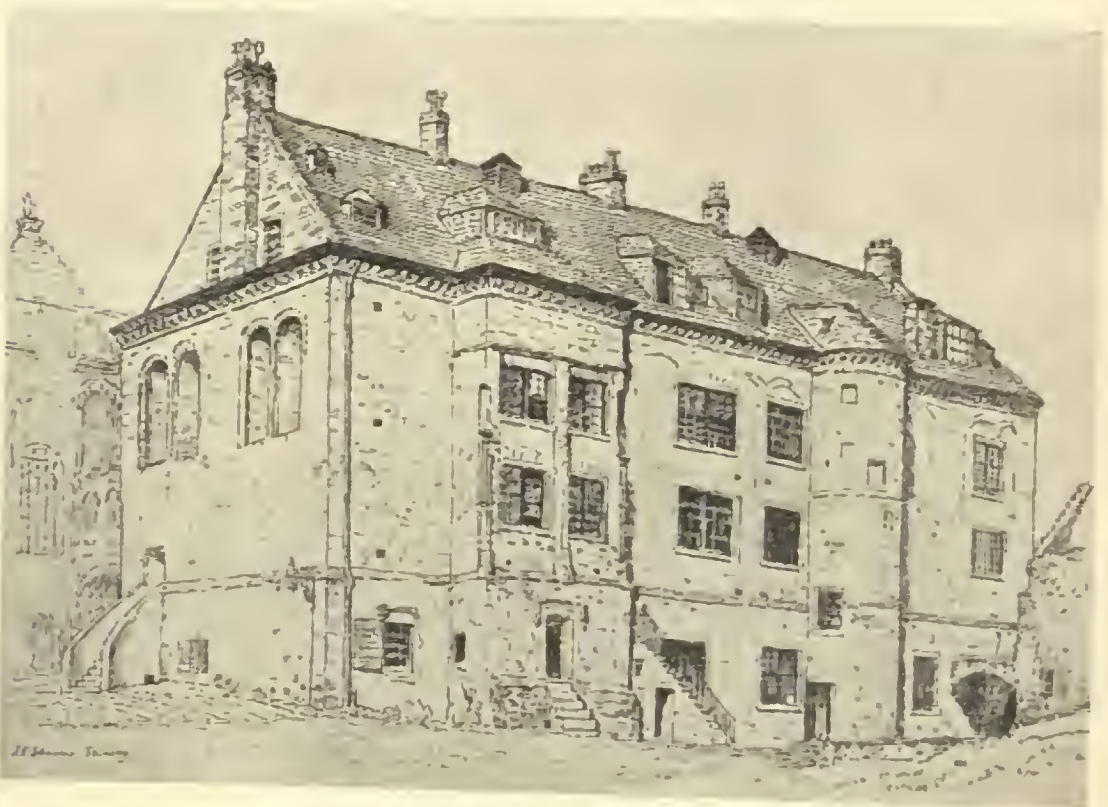
DESIGNED  
BY  
J. H. B. 1905



PLATE 4.—SPINDLE PANEL IN CHAMBER OF QUEEN'S BEDROOM.



PARLIAMENT HOUSE BEFORE MILITARY OCCUPATION.



PARLIAMENT HOUSE, MUTILATED FOR MILITARY OCCUPATION.





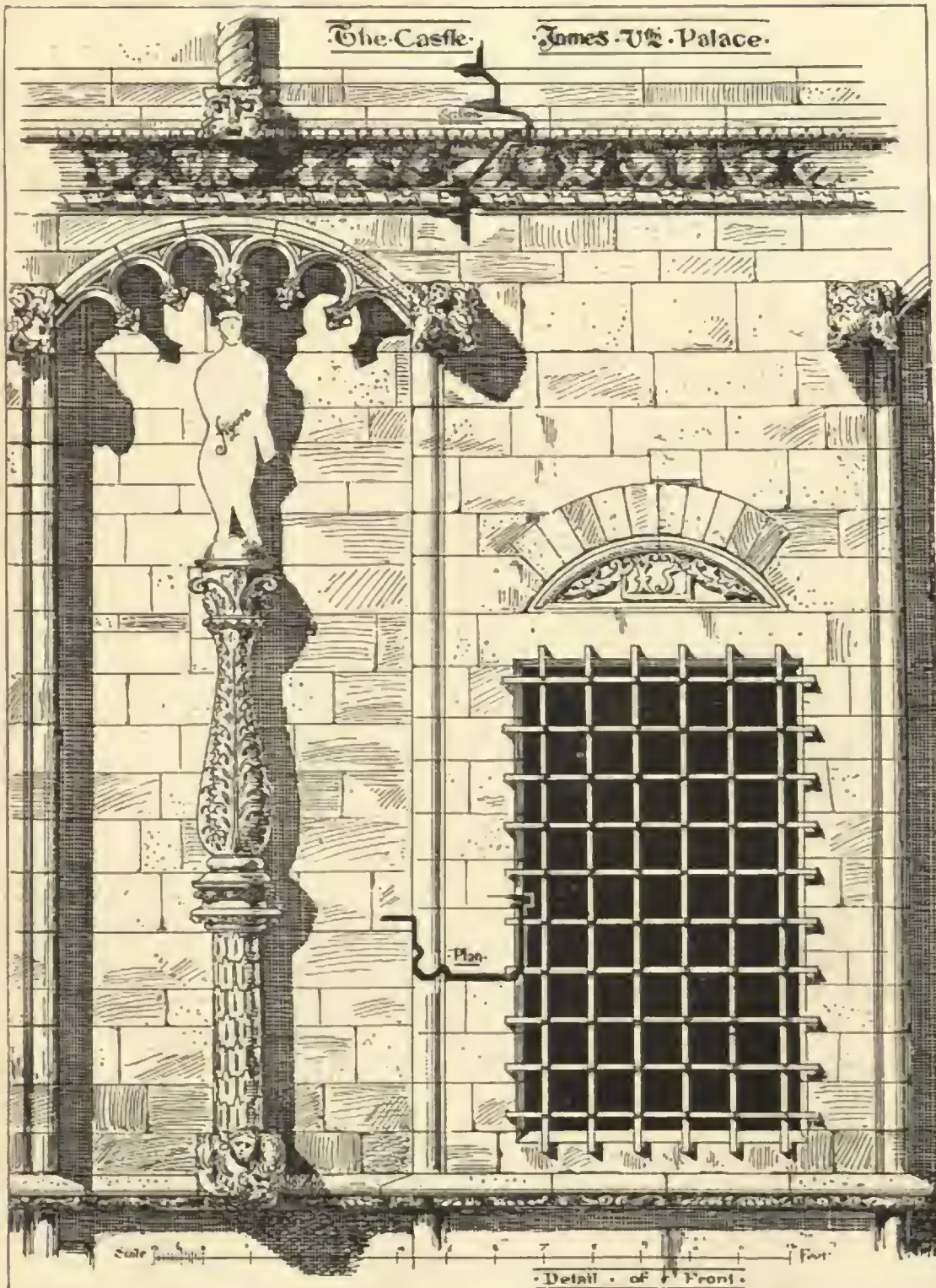


PLATE 2.—STIRLING CASTLE: ONE BAY OF ELEVATION OF PALACE TO EFFIE'S COURTYARD.  
Reproduced by permission from Small's *Architecture of Old Stirling*.

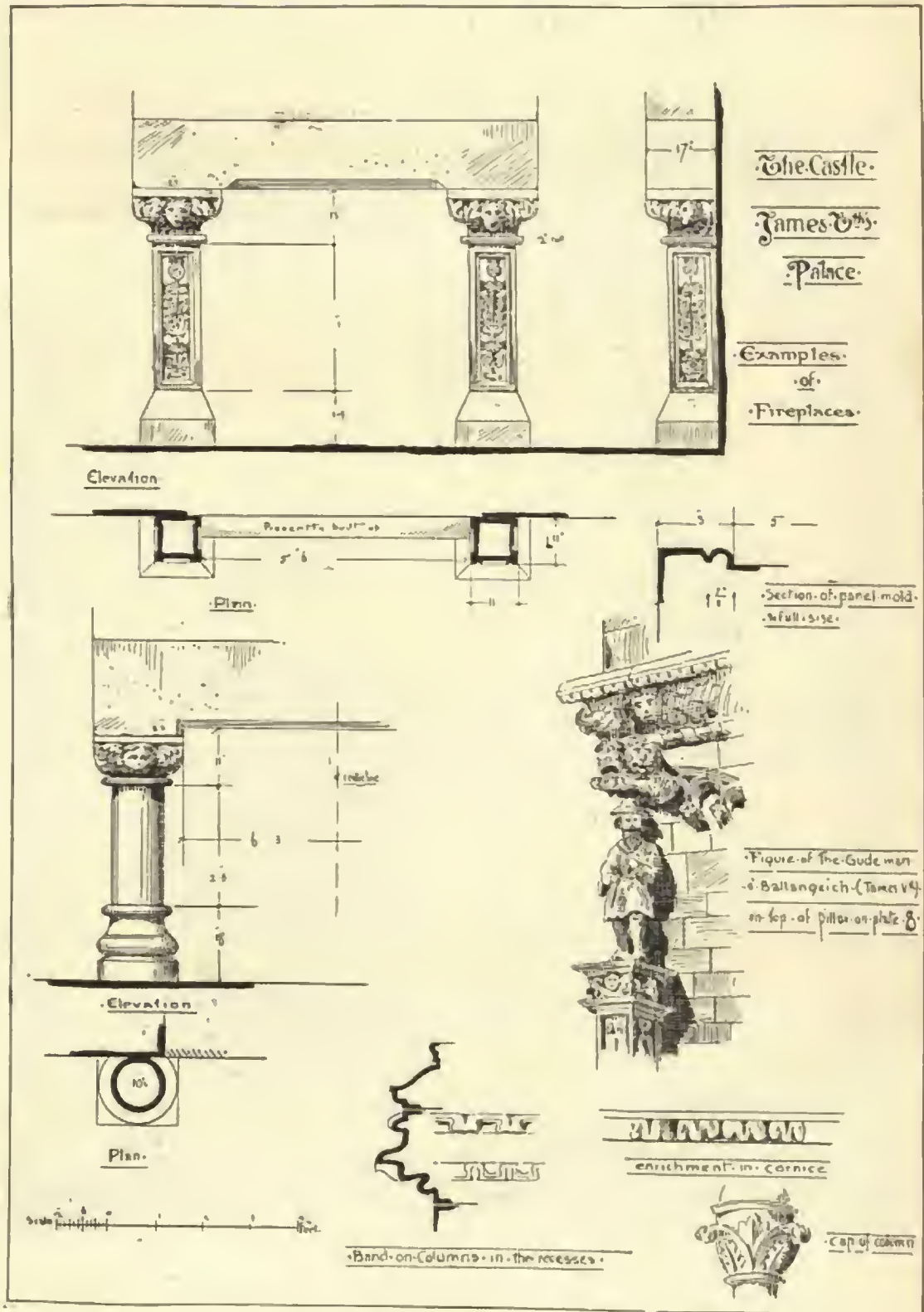


PLATE 10.—STIRLING CASTLE: STONWORK DETAILS.  
 Reproduced by permission from Small's *Architecture of Old Stirling*.



## THE ARCHITECTURE OF THE BRIDGES OF LONDON.

By PROFESSOR BERESFORD PITE [*F.*].

Read before the Royal Institute of British Architects, Monday, 18th May 1908.

THE architectural assets of London are neither few nor mean. This vast collection of buildings includes very many of individual value, and quite a considerable number of these are of supreme importance and decided beauty. London may be said to resemble an annual summer exhibition of the Royal Academy in that as a collection it is indigestible in quantity and, inevitably, extraordinarily uneven in quality. Though the exhibition as a whole is a refinement of the collection submitted to the Council, there would be no difficulty in conceiving an elimination of the annual exhibition which would produce, in a residuum of work of importance and eminent charm, a small collection which could more safely challenge attention and enlightened criticism than the bulk. Though there was in the case of London no preliminary sanction, corresponding with the function of providing for only the survival of the fittest, so naturally exercised by the Royal Academy, the resulting collection of architectural exhibits would, without doubt, under an eliminating survey assure us that we have, in our midst and about us, as fine examples of architectural achievement, of magnificent and picturesque extent, as was possessed by any other capital of the world, Rome not even excepted. Abating the interest, inherent, indefinite but very real, of the historic element for which in Europe Rome is unrivalled, London can cite, after castle for castle and cathedral for cathedral, an abbey of unrivalled artistic merits, churches, ancient and modern, in multitudes, chambers of legislation worthy of a world-empire, public and private palaces of business, commerce, and social life, and houses of peculiar charm. All this of London needs only that separation from the overwhelming tide of commonplace and brainless exercises among which it is exhibited, in order that the many and great qualities of architectural value which it possesses may be recognised and rightly appraised.

Let us take heart as to our standing before the world, and collect our treasures mentally into a composition of examples of the many architectural schools represented in London. For a moment group the mediæval monuments in this one city, and, after Westminster Abbey, without peer, so illustrative of all the vitalities of ancient building art, place Westminster Hall, as uniquely glorious in its roof; then the Tower, the grandest and most useful mediæval castle of these islands, commanding the port and population at once; add the Temple Church, St. Mary Overie Southwark, St. Bartholomew Smithfield, St. John's Gateway, Lambeth and Fulham Palaces, and the Charterhouse; do not forget the half-timbered Staple Inn in Holborn, and we have cited enough Gothic art to make a pilgrimage worth while to any mediæval enthusiast, and all yet fulfilling the original purposes of their foundation. The great era of the Renaissance has examples of its rising phases in Hampton Court, Holland

House, and the Middle Temple, while its masters bequeath us pregnant fragments in St. Paul's Covent Garden, the Banqueting House Whitehall, and York Water Gate, and unrivalled wealth in Wren's grouped multitude of churches. St. Paul's Cathedral has a complementary group in the solid dream palace of Greenwich, and the two mentally envisioned may rival the Vatican. Then consider Hampton Court and Kensington in passing to the crowning group of Somerset House, and while shedding a tear for old Newgate, ask what city need be ashamed of claiming pre-eminence for its Renaissance monuments while possessing such as these.

Allow a small chronological hiatus to be supplied presently and collect the London Exhibition of the Victorian art movement, which may well begin with the modern Renaissance of Gothic at the Palace at Westminster, a vision of picturesque dignity unrivalled in Europe, the inconsequent but grand St. Pancras Hotel and Station, and the powerfully individualistic Courts of Justice, a singular testimony to us of the blind enthusiasms of our own masters. Add the Albert Memorial and a park of selected churches, monuments of knowledge, art, and devotion. Besides this Gothic fever, the still potent Greek school could collect for its Acropolis the Propyleum of Euston Station, the British Museum, University College, the General Post Office, the National Gallery, St. Pancras and some great suburban churches, with many remarkable City buildings, as the Sun Fire Office and its neighbour. The Italian school, even when receding from popularity, could show the Reform Club, Dorchester and Bridgewater Houses, then Burlington House and Burlington Gardens, St. Thomas's Hospital, other club palaces, and all the work of its present reassertion mixed in an English mould in the later public offices. What a "Ring" could not London deck out with such altogether modern interests as are reflected in the Albert Hall, Old and New Science Colleges, Natural History Museum, Westminster Cathedral, Victoria and Albert Museum, London University, Scotland Yard, and Whitehall Court. One would fain picture the residential quarter of selected specimens of domestic architecture, from Adam to Norman Shaw, piquant and attractive, vital with the undercurrent of intimate comfort and sweetness that marks the English home. But there is no need to further enlarge on the wealth of London's architecture; elimination and collection will assure us of the artistic position of the city, just as a necessarily similar process is required to gauge the movement of English art by a series of Royal Academy exhibitions.

That impression of superior attractiveness which foreign capitals possess to English eyes lies more frequently in the arrangement and complete planning of the main avenues and public places than in the individual excellences of the buildings. Liberty-loving Britons have yet much to be taught of the blessedness of architectural despotism. Paris, Vienna, and Berlin differ fundamentally from London in their expression of the municipal organisation of architecture. The glories of the Champs-Élysées, of the "Ring," or of Unter den Linden will be sought in vain here; the limits of the greatest achievements of modern ideals and energy prove how insuperable in the case of London are the difficulties in the path of the greater municipal improvements in which such architectural effects are to be sought.

But the river has provided our metropolis with a thoroughfare, about one thousand feet in breadth, the main artery of its very core, which has scale, grandeur of line, organic union with the city, and a revelation of its whole architectural development that is grander than any of the masterpieces of civil planning that we have instanced from the Continent. The redemption of the northern tidal shore by the Embankment wall, with the resulting spaciousness between the buildings and the river, has in our own day added to the natural artistic wealth of London, and we now hold a position in which, without vanity, our architectural horn may be lifted up and our trumpet blown with confidence.

This review of the architectural assets of London and of the value of the Thames, which as a river, let us remember, is by far the finest available in Europe for a city of first-class

magnitude, brings us directly to the consideration of its bridge architecture. Perhaps, without the confidence given by an extended but select review of historical monuments or of the majestic river itself, we turn and reflect that this very majesty of scale in width, these grandly curving tidal shores, are furnishing problems in design which will, and must, reveal that shortness of grasp, inexperience in æsthetic, and stolid freedom of imagination which we know of a certainty characterise our national architecture of serious scale. The happy accident, often called the picturesque, the affectation, learned and deeply humorous, of antiquity, cannot in bridge architecture effectively come to our aid; these qualities, which so continually of late have served the purposes of the architect, cannot endure the strenuous purpose of the bridge constructor, and though an ardent medievalist may have insight enough to redream with active motive the domestic or ecclesiastical life of the past, a vital medieval London Bridge would be as impossible of achievement amid tide and traffic nowadays as the characteristic though gory decoration of traitors' or Lollards' heads on spikes above its gateways.

London has at least twenty-one bridges over the Thames, counting from the Tower to Hammersmith, with which to answer our expectations of failure: of these, fourteen are public road bridges and seven are for railways. All have been erected within the compass of a century, beginning with the commencement of that now named Waterloo in 1811, and concluding with the opening of Vauxhall in 1906. The railway bridges all come within the latter half of the century, commencing with Charing Cross in 1860, followed by the West London Railway in 1863, Putney Railway Bridge, the latest, being opened in 1889.

In a general preliminary view it may appear that the masonry bridges alone count as works of architecture, mainly on account of their material, the principles on which they have been therefore designed, and perhaps also on account of their monumental permanence. To the earliest therefore of the series these initial qualities of architectural works belong.

It is admittedly doubtful if the architecture of the first quarter of the last century has any distinctive quality or character to obtain for it recognition in our day of antiquarian and traditional enthusiasms. The final quarter of the eighteenth century had produced Somerset House, which has perhaps been regarded as the climax and finale of the later Renaissance tradition in England; the preliminary marshalling of the forces which resulted in the Gothic revival was then taking place, to be engaged ere long in the conflict of the styles, mainly with the nascent Neo-Greek movement, already founded upon the publications of Stuart and Revett for the Dilettanti Society, by Wilkins first and subsequently by Cockerell. The exhaustion of the long European wars, with the relaxation and social sluggishness engendered by the long peace that ensued, have appeared to us as reflected in the lifeless condition of the building arts, and we connote no architectural work of first-rate importance with the period between the completion by Sir Wm. Chambers of Somerset House in 1786 and the competition for the Houses of Parliament half a century later. Yet to this generation belong two works, each of colossal magnitude, witnessing to a purity of taste, refinement of architectural knowledge, and power of constructive skill in achievement to which England had not heretofore attained.

These two works enable us to claim, for the London even of to-day, the possession of the most beautiful bridges erected in the world, clear in their appeal to the catholic instinct of beauty and admitting their city and constructors to recognition in any review of famous architectural monuments. We could pass the bridges of the world in review without finding a pair of successful rivals to these works of the early nineteenth century, an epoch to which we have not afforded due recognition. Thus enabled we worthily supply the hiatus in our chronological review between the close of the Renaissance influence and the new life of

Victorian Gothic with two masterpieces, Waterloo Bridge being completed in 1817 and London Bridge in 1831.

At the beginning of the nineteenth century additional bridge accommodation was a recognised necessity, for we find that, besides the two great stone bridges just dealt with, the advent of iron as a practicable material was early witnessed by its adoption in the erection of Vauxhall and Southwark Bridges, the former occupying from 1811 to 1816 and the latter from 1814 to 1819. Thus three new bridges were in course of erection overlapping one another. Waterloo and Vauxhall commenced in the same year, and Southwark two years before the completion of the latter. The three old bridges of Westminster, Blackfriars, and London were thus doubled before the rebuilding of the last named was undertaken; four bridges being thrown over the river in the twenty years which elapsed between the commencement of Waterloo and Vauxhall in 1811 and the completion of London Bridge in 1831.

A rest of twenty years then ensued, and another period of bridge-building begins. Again a similar span of twenty years which includes the erection of six bridges, embracing the rebuilding of two and the addition of four new bridges above the former limit of London extension. It begins with the rebuilding of Westminster from 1854 to 1862, and includes the erection of Chelsea Suspension Bridge, opened in 1858, and Lambeth, also suspension, in 1862, then the rebuilding of Blackfriars from 1864 to 1869, the Albert Bridge, in hand from 1863 to 1873, and Wandsworth Bridge, opened also in the latter year. All the six thus named in this second epoch of twenty years, like the first series, are road traffic bridges, but none wholly of masonry.

During this second era of bridge building and entirely covered by the decade of the sixties we have a group of five railway bridges. The series commences with the first instalment of the Pimlico or Grosvenor Road Bridge, 1859 to 1860; then Charing Cross, 1860 to 1864; then the Chatham and Dover bridge at Blackfriars, opened in the latter year, followed by Cannon Street, the widened Grosvenor Road, and the West London Railway at Battersea, all completed in 1866. The total addition to the Thames bridges in the twenty years between 1853 and 1873 is the not inconsiderable number of eleven, more than half the total of twenty-one that we have under review.

Two railway bridges remain, the St. Paul's Station bridge, alongside but not connected with and dissimilar in design from the Blackfriars railway bridge, opened in 1886, and the District Railway extension to Putney, opened in 1889.

Then follows another group of road bridges beginning with the third, alas! only of masonry, the finely simple public bridge at Putney, commenced in 1883 and opened in 1886; Hammersmith Bridge, rebuilt in 1887; Battersea in 1890; then the most significant of the whole series, the bascule bridge at the Tower, like all important achievements the child of heated controversy, in 1894. This decade had thus yielded six bridges, the thirty years which terminated with it having witnessed continuous bridge building and produced seventeen, an average of more than one bridge every two years.

A cessation of practical result followed for twelve years in which only the temporary wooden bridge at Millbank was erected and removed, and the last, but not least, to date, is Vauxhall Bridge, rebuilt and opened in 1906, after a life of ninety years, perhaps a parable of the practicable duration of iron structures in public usefulness.

At the present time the widening of Blackfriars Bridge is in hand for public purposes, and note should be made of the successive increases demanded at Charing Cross, Cannon Street, and Grosvenor Road of the bridges for railway traffic, besides the unnatural and happily invisible tubes of the City and South London, City and Waterloo, and Baker Street and Waterloo electric railways.

The erection of two proudly fine bridges marked the beginning of the nineteenth century which ere its course was fulfilled was marked by great artistic movements, by such awakening and rekindling of sympathies, by recognition of what is imperial in the wealth and power of England and progressive in social amelioration and refinement. Works of marked architectural character and purity proceeded for a while with the development of engineering science which combined with current architectural maxims and details, modifying each with each as at Southwark, Westminster, and Blackfriars; sometimes refusing all artistic assumptions and sometimes flirting with them in the railway bridges; rising to great engineering achievement, as in the Tower Bridge, clothing its machinery with the pageantry of mediæval association; at Vauxhall waiving architectural traditions to seek some new art junction with metalwork: finally, for comfort, speed, and the now necessary avoidance of architectural controversialists, procuring complete alleviation from all the pains of this thorny subject in subaqueous borings.

Would that this non-provocative solution, both economical and scientific, could commend itself even now to the railway companies, whose sins against the amenities of the noblest of metropolitan rivers have seemed so unavoidable and are yet so grievous!

It is not unnatural, therefore, to revert to the pair of great masonry bridges with which the century opened, beyond the attainment of which no subsequent erection advanced, and which, we fear, could not have immediate successors if even the means and the opportunity for their repetition were now afforded. The singleness of purpose in expression attained by consistent concentration of study upon the classic orders, the fine appreciation of subtle delicacy of proportion, and the beauty and refinement of line evidenced both by Waterloo and London Bridges, are not the product of a single effort on the part of a talented designer. The necessary atmosphere both for the student and for the public is now lacking to us, and, unless by sheer and feebly conceived copying, it is against all the probabilities of the time that similar bridges could be produced for or by public bodies of the twentieth century. Our eyes are enlightened, the honey has fermented, our palates are tinctured, and the light diet of pure form palls. Not but there are attempts at naïve simplicity, which result in emptiness of interest, or that the revolt against the picturesque (save the mark!) and meaningless ornamented construction is not healthy; but the stepping-stones to such refinement and power of design are by the considered elimination of forms that become superfluous and by the emphasis consequently attained by that which remains. Initial emptiness is barren of suggestion, and emphasis by imported rather than integral ornament is soon discounted. The architectural atmosphere is largely the product of the architect; the architect is ultimately, perhaps now as always, the pupil of masters, that is, of a school, and the school is the home of doctrine. The fear of dogma in architecture has followed its misapplication, and glancing from Waterloo and London to Westminster, Blackfriars, and the Tower Bridges the change both of temperature and of the constituents of the architectural atmosphere may be noted with some sense of demonstration. Something happened to make these later works possible which had not been in the slighted early years of the last century.

Our subject is drawing to the consideration of the further needs of London traffic in bridge building, and assuming for the moment the question of material to be entirely settled in favour of masonry, we may therefore with earnestness review the results upon the bridge builders of our fathers' generation of their architectural faiths and heresies. Have our departures from traditional lines of study, and our easy rejection of the school of classic thoroughness in favour of the enthusiastic antiquarianism of the modern Gothic delusion, made it easier for public taste to foresee the failure of great bridge designs attempted in an artificial atmosphere of unreality and affectations? Conflicting architectural standards have

wrought not unnatural confusion in the childlike minds of artistic engineers, and while we mock at their ornaments, despise their parapets, and belabour their turrets with the battering-rams of professional criticism, the world may well laugh if, in up-to-date enlightenment, we can only advise them, in consequence, to rub out all the architecture and let the naked truth speak for itself.

Architects might be sheltered in such an alternate hot and cold treatment of iron and steel work design, but assuredly ought to have a doctrine according to knowledge for the architectural problem of the æsthetic treatment of masonry bridges.

We may re-erect the iron bridge at Vauxhall in steel and survive the ordeal to our own satisfaction, but could we attempt a new masonry bridge from the Embankment, in view of Waterloo, without becoming conscious of how much farther down stream the Tower is from Waterloo, or even from London Bridge, to the architect, than it appears to be to a more irresponsible passenger?

The conclusion might appear reasonable that the succession of iron to the inheritance of stone has inevitably severed traditional descent in design, and that London Bridge is as necessarily the last word in masonry as Vauxhall is the latest in steel. The long succession of London iron and steel bridges, broken only by the granite bridge at Putney, points in this direction, as well as indicates that if you want another there is nothing else to be done but to repeat the Swan-song and again reproduce the record of London Bridge. Truly a miserable confession of the decay of genuine inspiration if it ever comes to this. There is inspiration and stimulus enough in the modern design of steel bridges of the world from Niagara to the Zambesi, great in variety of constructive principle and æsthetic expression, to potently negative the fear that the subject is uninspiring or fulfilled. But is bridge building still in the sphere of architectural practice? Granted the requisite and unaltering conditions of the constructive design of great arched structures, is there now the power to express the delight of the architectural mind in their fashioning and refining, and when necessary of emphasising them with noble decoration? How much that the Renaissance drew from its Roman ancestor of bridge-building instinct was unconsciously sacrificed when the Gothic revivalists put themselves and their national art into gondolas at the bidding of impulse in order to pass beneath a Renaissance Bridge of Sighs! Architects have since then gone up, rather than down, the stream of time in search of progress, blindly struggling against tide, aided only by fickle winds.

With diffidence, be it suggested, we have found a *pis-aller* in the Ponte Vecchio, and are prepared to find shelter in picturesque design, of truly infinite possibility, from the barrenness of our disordered styles. All this is feasible, and in good strong hands may be noble and enduring; but the sad inevitableness of the multiplied temptations to bad architecture, and of irregular chimney-stacks and external sanitary works, must call for a pause if the suggestion so charmingly rendered by our President advances. Street bridges are a novelty; welcome, indeed, in view of many problems alike practical and artistic, and as propounded by Messrs. Colcutt and Hamp singularly attractive, but the nobler quality of the unburdened causeway must remain the ideal architecturally, as it is likely to do practically.

It is, is it not, vain to preach here a return from the involuntary exile or actual captivity of antiquarianism in design to the Fatherland of our ever-living present. Vain because we have already burst the bands which connected our life with the progress of the age, and cannot see its reconstitution; any recommencement of mental training, any limiting of vision, to what Chambers, Rennie, and Cockerell saw when we first broke away and, turning the head, looked backwards, seems now so impossible. But it is not really so; the appeal of architecture is universal if only because of its development wherever civilisation is on the forward march. The tradition broken in England has been essentially maintained on the

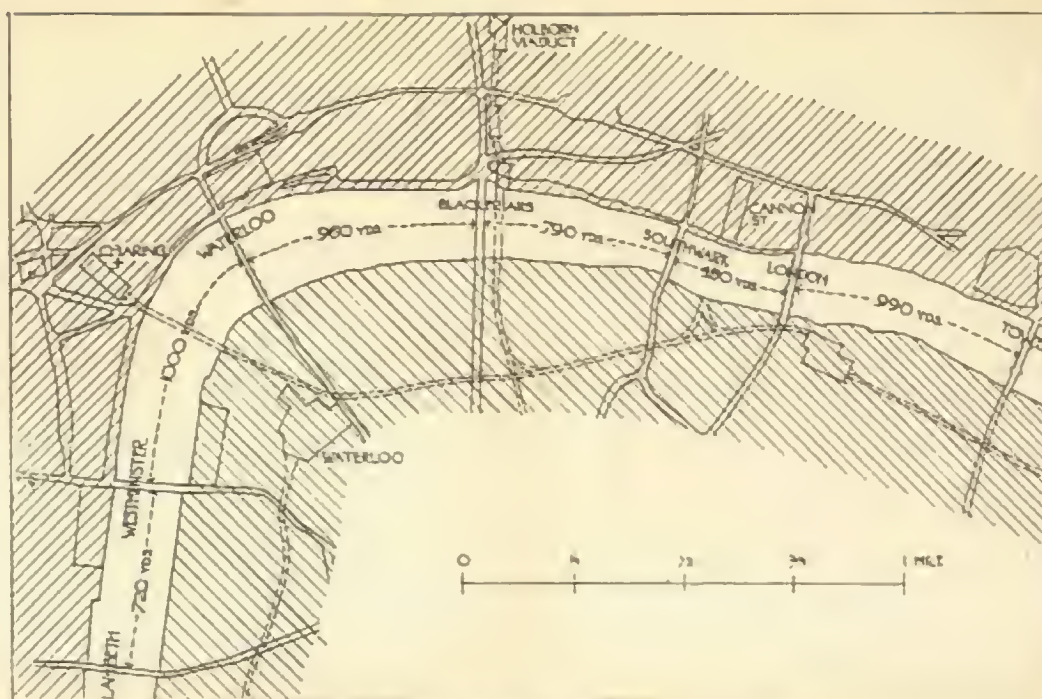
Continent, and much that may have been missed, notwithstanding, in the romantic development of Ecclesiastical and Domestic architecture and decoration, has been compensated for in the sustained progress of civil and imperial art. There are many modern masonry bridges in Europe which, though lacking the grandeur of scale possessed by London or Waterloo Bridge, because lacking such a river, are subtly instinct with modern expression and movement of design. Among the bridges of Paris will be found refreshing suggestions of complete accord with the development of current architecture, in most cases calling significantly upon sculpture, in method entirely of the present age, for sweet and gracious emphasis of idea. German bridge construction, too, with its more practical expressiveness, is strong, though the examples that rise to mind are mere combinations of monumental abutments to iron structures, but always vitally expressive. Effort for originality in masonry bridges is not the keynote needed. Originality has come powerfully into the modern design of steel structures, always bringing with it interest and often complete artistic satisfaction; but stonework, crying always with a voice from the ages, is harmonious only when tuned to more familiar chords, and demands, not the courageous science of the engineer, so much as the cultivated knowledge of the studiously receptive artist.

Could not serious experiment be made with vast bridge design for masonry? Lack of experience would seem to demand it of us as a necessary course of study, while the presence of opportunity may make its neglect disastrous! Are we prepared to claim fitness for so great an undertaking as the assured quality of any successful or eminent practitioner to whom such a task may perchance be allotted? If London requires bridges, has London other ideals to offer than those results of that architectural atmosphere for which in the greatest measure we are ourselves as architectural thinkers and practitioners responsible? The matter is becoming urgent, and the review of means and needs cannot therefore now be inappropriate. Architectural education in a widening sense is upon us; concentration upon its expression in one of the noblest types of structure becomes both students and authorities.

A claim may now not unreasonably be made for new means of crossing the river on behalf of the ordinary traffic of commerce near the heart of business, where time can be most effectually saved between the north and south sides. No new position for a road bridge has been appropriated between London Bridge and Westminster since the opening of Southwark Bridge nearly ninety years ago, the rebuilding to a greater width of the existing bridges at Blackfriars and Westminster being the only public provision for the extra growth of central London traffic during a century.

With the exception of the distance between London and Southwark bridges, which is a little over a quarter of a mile, the space between the lower bridges averages about half a mile on the centre line of the stream. Of this group Lambeth Bridge can hardly count in its present condition. Thus, where the traffic is heaviest in the City the opportunities of cross-communication are but similar to those of Chelsea and Battersea.

Two propositions for new bridges have of recent years been mooted for consideration and discussion, but each apart from the other. The first was heard of in connection with the planning of Aldwych about ten years ago. The western arm of that crescent attaches itself to the approach from Waterloo Bridge, the widening of which was then under discussion; while the eastern bow correspondingly supplies the point for a new bridge at Essex Street, where the level permits of an easy spring for a land arch over the Embankment. This site is just midway between Blackfriars and Waterloo, and about a quarter of a mile from each. The project is one that probably has not been lost sight of by the advisers of the County Council, but it seems to have passed out of public notice. It should be revived as complementary to the Holborn and Strand route, to which it would give a more complete usefulness. The



PLAN SHOWING DISTANCES BETWEEN BRIDGES IN CENTRAL LONDON.

direction of its southern approach has been suggested by Mr. Paul Waterhouse as a straight line from the Bethlehem Hospital dome to the central entrance of the Law Courts, but it would seem that one from the Gladstone statue to the Elephant and Castle radiating point would be more serviceable and as good planning.

The second bridge proposition is one that Sir John Taylor, whose great authority on such matters ensures respect, dealt with from the Institute Chair in the adjourned discussion on Mr. Waterhouse's Paper on "The Report of the London Traffic Commission,"\* on 11th June 1906, which I venture to quote. He then said:—"I am perfectly satisfied that the blocks which occur both in the Strand and at Westminster in Parliament Street—and I think that the Strand is about the very worst place for a block in London—are due solely to the want of further bridge accommodation. There is no bridge accommodation for vehicles between Westminster Bridge and Waterloo Bridge, and as a consequence we find hundreds of vehicles travelling across Waterloo Bridge and across Westminster Bridge which desire to get to Charing Cross. My impression is that if a bridge could be erected across the Thames from somewhere in the line of St. Martin's Church or King William Street to Waterloo Station it would be of enormous service, and would stop all the confusion of traffic at the ends of the present bridges. I am sure of that, because if you come in a cab or an omnibus from Waterloo, you come across Westminster Bridge and turn up Parliament Street to get to—where? Charing Cross. Precisely the same operation is going on all day long across Waterloo Bridge."

Our President, Mr. Colcutt, in his Address of November 1906 referred to the opportunity which in the previous year seemed to present itself for removing the railway station and hotel at Charing Cross to the Surrey side on to a site adjacent to the terminus of the London and

\* JOURNAL R.I.B.A., Vol. XIII., 1905-6, p. 425.



THE TOWER BRIDGE.

(Photo by York.)



LONDON BRIDGE.

(Photo by York.)



CANNON STREET RAILWAY BRIDGE (LOOKING NORTH).

(Photo by Hawkins.)



CANNON STREET RAILWAY BRIDGE (LOOKING SOUTH).

(Photo by York.)



*Photo by H. G. Linn*

SOUTHWARK BRIDGE (LOOKING EAST).



*Photo by H. G. Linn*

ST. PAUL'S RAILWAY BRIDGE (LOOKING WEST).



*Photo by H. G. Linn*

BLACKFRIARS RAILWAY BRIDGE (LOOKING SOUTH).



*Photo by H. G. Linn*

BLACKFRIARS PUBLIC BRIDGE.



WATERLOO BRIDGE.

Photo by Lark



CHARING CROSS RAILWAY BRIDGE.

Photo by Lark



WESTMINSTER BRIDGE.

Photo by Lark



LAMBETH BRIDGE.

Photo by Lark



"ARCHITECTURE"



"ENGINEERING"

Vauxhall Bridge: Bronze Figures in Panels (F. W. Porcher, A.R.A. Sculptor).



"EDUCATION."



"FINE ARTS."

*Emmerson, photo*

Vauxhall Bridge: BRONZE FIGURES IN PASEES (ALFRED DUBRY, A.R.A., SCULPTOR).



VAUXHALL BRIDGE.



VAUXHALL BRIDGE : DETAIL "ARCHITECTURE."



GROSVENOR ROAD RAILWAY BRIDGE.

Photo by York.



CHELSEA BRIDGE.

Photo by York.



ALBERT BRIDGE.



BATTERSEA BRIDGE.



*Photo. by H. V. L. L.*

WANDSWORTH BRIDGE.



*Photo. by H. V. L. L.*

WEST LONDON RAILWAY BRIDGE.



PUTNEY RAILWAY BRIDGE.

*Photo by Martins.*

PUTNEY PUBLIC BRIDGE.



PUTNEY PUBLIC BRIDGE.

*Photo by Martins.*

HAMMERSMITH BRIDGE.

*Photo by Martins.*

South Western Railway. This removal would provide a site and approaches for a public bridge just where it is demanded. The hope may be expressed that the completion of the renewal of the Charing Cross station roof is not a sufficiently important consideration to outweigh the enormous advantages to Central London north and south of the river ensuing from the accomplishment of this proposal. Mr. Colclutt remarked on the financial aspect of the proposition that the present space occupied by the station and hotel is of such enormous value that the railway company, had they adopted the scheme, would have been but little out of pocket.

London needs bridges both at the Temple and at Charing Cross, and their erection on either side of Waterloo Bridge will adjust more approximately the setting out of the distances between them and the rest of the series from the Tower to Battersea, which, as has already been shown, is most unequal and insufficient at the heart of the traffic.

Expansion in value and increase in usefulness is already contemplated on the southern bank of the river by the appropriation of the splendid site for the County Hall which enhances the importance and urgency of the bridges problem. Increase of rateable value, as well as of municipal amenity, will go far to justify taking up as a practical matter the increase of the bridge communications.

#### TOWER BRIDGE.

Sir J. Wolfe Barry, Engineer; Sir Horace Jones, Architect: 1886-1894: cost £830,000.

One has a lurking fear that works of art much cursed by contemporaries have greater vitality than the more favoured that it appears proper to bless. Posterity has an awkward habit of ignoring the current logic of criticism, by dimming her eyes to what may urgently annoy ours, and discerning greatness where we felt absurdity, and picturesque interest in features which may well fall below the passing standard of attainment and knowledge.

That this will ultimately befall the Tower Bridge there can be at large but little doubt. This generation of architects has seen anathema become recommendation, and the opposite sense adopted without compunction by ardent doctrinaires without much difficulty. The Gothic ginnerack of the granite casings of the towers, the ridiculous departure from faith and truth, unseen and therefore heinous, in that the starling bastion basements of the towers are spacious chambers for the machinery over which the lofty towers are carried on girders, are probably curses harmlessly *en route* home already. It may not be so perhaps, as we cannot succeed in convincing ourselves that the architectural garment is either integral or worthy. But it is an incident only, and a paltry one, compared with the greatness of the structure, its practical conquest of a difficult problem, and its overpowering expression of topsey-turveydom when the huge bascules lift and lower themselves as easily as a pair of hands. What should we say to the architecture of London or Waterloo Bridges if their central spans did the same? Indeed another sort of man is needed to look at the Tower Bridge to whom architecture, as we know it, is of no account.

#### LONDON BRIDGE.

John Rennie (*ob.* 1821) & Sons, George & Sir John Rennie, contractors: 1823-1831: £425,081 9s. 2d.; total cost with approaches £1,458,311 8s. 11½d. (*vide Builder*, 8 March 1902).—Widened 1902-5: Sir Benj. Baker: cost (contract) £95,489.

The expression of apparent continuous stability denied to the Tower remains to London Bridge, and is the distinguishing element of its design. Complete sufficient strength, embodied in graceful lines and adequate proportions, characterises this more than any other bridge. Unaffected simplicity is charming where it complies with beauty of form, and is not attained either by the ignorant or by accident. The alteration to the cornice by its gross enlargement to carry widened footways on cantilevers of most weakly drawn profile, and the

substitution of an open for a solid parapet, are deplorable, and the total artistic effect of the bridge has very greatly suffered thereby. The design, as an artistic composition, only just survives the makeshift, and has ceased to give the unalloyed pleasure of yore.

#### CANNON STREET RAILWAY BRIDGE.

Sir John Hawkshaw: 1863-1866: cost £193,000.—Widened 1882: Mr. P. Brady.

One cannot well predicate elegance for a railway bridge, and the more primitive trabeated horizontal form seems directly appropriate for the long travelling masses of the trains than an arcade which invites refinement of drawing and suggestion in adornment. The iron causeway, with its grim supports conducting to the cavernous mountain of the station, is instinct with expression, and, if it may be said, with architectural fitness. The pseudo-classic order of Doric pillars, with their simple caps, and the heavy but satisfactory bracketings of the cornice under the pathway, are not unsuitable as an iron interpretation of a pseudo-architectural idea.

#### SOUTHWARK BRIDGE.

John Rennie: 1814-1819: total cost £800,000.

The treatment of the design again evidences the skill and restraint with which the name of Rennie is deservedly connected. The arches and piers are fairly proportioned, and the difference of treatment is clearly marked between the design of the stone and ironwork. The bridge is noteworthy as completely crossing the river in three spans, London Bridge, also by the Rennies, employing five arches, and Waterloo nine. It is to be hoped that London is not to lose all the quite aesthetically satisfactory bridge designs in our generation, but the necessary and now settled rebuilding of Southwark Bridge may involve us in a serious artistic loss which we shall be unable to replace.

#### ST. PAUL'S RAILWAY BRIDGE.

Sir J. Wolfe Barry and H. M. Brunel: 1883-1886.

Until the river can be enjoyed, whatever charms the design of this bridge may contain are difficult of access, and one fears unimportant. Its iron arches and stone piers echo Blackfriars Bridge, but have no marked character.

#### BLACKFRIARS RAILWAY BRIDGE.

J. Cubitt and F. T. Turner: 1863-1864.

This bridge of lattice girders, with arched crossed connections, iron columnar piers, with inverted curved console-like junction pieces between the girders, has character, and were it not for too earnest attempts to give architectural proportion and decoration to the piers, should gain credit for directness and simplicity of treatment. It is metallic, is manifest engineering, and definitely a railway bridge. It is an odd contrast both to St. Paul's, as a railway bridge, and to its distant brother at Wandsworth, which is a public bridge.

#### BLACKFRIARS BRIDGE.

Jos. Cubitt and H. Carr: 1864-1869: cost about £270,000.—Now being widened: Sir Benjamin Baker: estimate £203,000.

This bridge should be a success; the character of the differing materials is preserved. It has detail eminently the product of its period, of the Victorian-Gothic type. The forms are bold and vigorous. Adjectives have been freely applied to it, assorted according to the critical standpoints. So the bridge has interest. It is in the direct line of heritage between Westminster and the Tower Bridge, and we are still waiting for a better modern combination of masonry and metalwork.

## WATERLOO BRIDGE.

George Dodd and Sir John Rennie : 1811-1817 : total cost £937,392.

There is little remaining to be said in the presence of any view of this successful design. It is a convincing exhibition of the artistic value of that absolute solidity and convincing stability which masonry bridges possess almost inherently. Lightness of line in the nine-fold arcade gives scale to the river and adjustment to the wonderful façade of Somerset House, while the later Embankment wall, itself masterly in simplicity and power, has not injured the grouping. The unique quality of a natural combination with buildings makes stonework the proper material for civil bridges, just as one concedes ironwork without difficulty for those of railroads. The criticism that the twin columns which decorate the piers are superfluous should be qualified by the consideration that, though their main purpose is artistic, their presence modifies the proportions of the piers to the practical extent of subduing them to balance the slender masses of the spandrels and the lightness of the bridge upon the crowns of the arches. Without these columns the bridge would appear thin between the piers. The horizontal line of the bridge, being practically level, without any designed camber, permits the cornice to return and mitre properly on the projecting bays of the piers.

## CHARING CROSS RAILWAY BRIDGE.

Sir John Hawkshaw : 1860-1864 : cost £180,000.—Widened 1882 : Mr. P. Brady.

The two great brick piers, remains of the former Hungerford Suspension Bridge, and the use of lattice girders differentiate this from its younger brother at Cannon Street. It also lacks the architectural motive ; the cylindrical piers suffer in consequence, and only under and near is the bridge impressive. It unfortunately strides across the finest reach of the Embankment, and diminishes the view of Westminster. On æsthetic grounds alone this railway should be removed to the southern shore. London will then marvel at the view from about the Adelphi Gardens westwards. When this is accomplished, and when the brother to Waterloo Bridge replaces the railroad, the views towards east and west will be added joy of not inconsiderable value to the world. The coming of the County Hall over there must hasten the day ; then what a view ! Westminster : the charming (how unsuitable an adjective and yet how true) Scotland Yard groups, and Whitehall Court, now completely lost to public appreciation as a whole, with the western expanse of sky behind them. This is for our time to do.

## WESTMINSTER BRIDGE.

Thomas Page : 1854-1862 : cost £373,189.

We all feel this fine bridge to be wrong, weak in its lines, inappropriate and stupid in its cast-iron spandrels, Gothic traceries and cusplings. We should therefore regard its earnestness as a sign that our position is privileged at the conclusion instead of at the commencement of the Gothic revival. For if we had lived in the days of our fathers we should in all probability have done after their works. Compare with the Gothic of the Tower Bridge again, and be thankful that Westminster is no worse. The mutations of taste give us all thought, and we hope humility.

## LAMBETH BRIDGE.

P. W. Barlow : 1862 : cost £48,000.

Shortly perhaps to disappear. Sir Benjamin Baker has described this bridge as "the work of an engineer insufficiently experienced in bridge design." So Peter Barlow, F.R.S., will soon appear only as editor on the covers and title-page of "Tredgold's Carpentry" for remembrance. A good masonry bridge is needed here, the position is central to large masses of London, and its proximity to the Palaces of Westminster and Lambeth should properly weigh in the problem.

## VAUXHALL BRIDGE.

Mr. M. Fitzmaurice, C.M.G., Engineer; Mr. W. E. Riley, F.R.I.B.A., Architect: 1903-1906.

This is both fresh and refreshing, at once purely mechanical, with some frills reminiscent of passing fancies. The super-balusters, the comparative position of sculptural art, British in feeling and struggling with scale. The whole a great move in the right direction, but rather too close to us to appraise fairly; but how much above what is higher up!

## GROSVENOR ROAD RAILWAY BRIDGE.

Brighton Railway: Sir J. Fowler: 1859-1860. Chatham Railway: Sir C. Fox: 1865. Total cost £215,000.—  
Widened recently.

Absence of charm or power, even of that commonplace directness which we want from railway engineers, and yet no greater faults or manifest errors of taste. But it seems difficult to become a real failure if there is real transport to be done in a practical structure like this.

## CHELSEA SUSPENSION BRIDGE.

Thomas Page: 1854-1858: cost £112,106.

One regrets the encomiums uttered by railway passengers in the trains on the Grosvenor Road Bridge on this design, fearing that the prettiness of the unsuitable and trumpery detail are their cause. Any suspension bridge contains so many simple elements of charm that the obvious nonsense of these pinnacles and domes is provoking, and the want of discernment between what is essential and the trumpery so common. If it was only for Battersea Park, with its brickwork waterfalls and glades, it would be all in keeping, but it crosses the river and demeans a fine Embankment with its fancifulness.

## ALBERT BRIDGE.

R. M. Ordish: 1863-1873: cost £117,272.

There is a certain grim scale about the curved line of the bridge that deprives the suspension lines of their direct purpose, but the impression remains that the whole is a masterly engineering achievement, though marred by some triviality in detail. A remarkable contrast to its distant neighbour at the other end of Battersea Park.

## BATTERSEA BRIDGE.

Sir J. Bazalgette: 1887-1890: cost £145,000.

One of the artistic sins of the late Metropolitan Board of Works, to be set against such unexplained architectural triumphs as the Victoria Embankment and Putney Bridge.

## WEST LONDON RAILWAY BRIDGE.

Messrs. Barker & Bertram: 1862-1863.

Little known, but not wicked, it has the character of an economical and serviceable iron road bridge, with large simple arches.

## WANDSWORTH BRIDGE.

R. M. Ordish: 1871-1873: cost £140,000.

Unfortunately by the gifted author of the Albert Bridge. Altogether unworthy of the Thames, unpleasant, a lattice cage to the passenger, with weakly-looking big pillar supports and absurd capitals; as little known as the former.

## PUTNEY RAILWAY BRIDGE.

W. Jacomb: 1887-1889.

This is in evidence from the road bridge adjoining, a sensible railway lattice girder construction on unfortunate pseudo-architectural pillars.

## PUTNEY BRIDGE.

Sir J. Bazalgette: 1883-1886: cost £240,000.

Covers the multitude of errors for which atonement is demanded both by Battersea and Hammersmith Bridges, designed by the same engineer. How convincing all this is that Sir J. Bazalgette should only have designed for masonry!

## HAMMERSMITH BRIDGE.

Sir J. Bazalgette: 1887: cost £82,117. On old foundations, by Tierney Clarke, 1827.

The list should be extended to Kew, which is beyond the county, if a pleasant finish to the series is demanded, but things are as they are, and London must stand the bad ornament which mars this otherwise doubtful suspension bridge as best it can. There is little excuse and we cannot happily dwell upon it.

There is ample warning as well as encouragement in the London bridges.

## DISCUSSION ON THE FOREGOING PAPER.

Mr. HENRY T. HARE, *Vice-President*, in the Chair.

MR. H. HEATHCOTE STATHAM [F.] said he had much pleasure in moving a vote of thanks to Professor Pite for his interesting and suggestive Paper. Before coming to the bridges he would make one comment on the list Professor Pite gave of their fine possessions in London architecture. Among them University College was very properly mentioned, and he very much regretted to see in the Royal Academy a design for doing what the architect of that building never intended, namely, the closing up of the quadrangle towards the street by a return building. He sincerely hoped that proposal would never be carried out. It would be destroying the view of Wilkins's best work and taking away from the neighbourhood the one fine open space it possessed. Mere considerations of room ought not to be considered as everything. Coming to the general scope of the Paper, the author rather reminded him of the story of Balaam: "I called thee to curse mine enemies, and behold thou hast blessed them altogether." Seeing that Professor Pite was commencing with Waterloo and London Bridges, and coming down to these more recent ones, he had thought that a more decided contrast would be drawn between the architectural truth and grandeur of the old bridges and the absolute gimcrack of some of the later ones. He could not

understand the tone in which Professor Pite spoke of structures like the Tower Bridge and Blackfriars Bridge. As to what he said of the engineering interest and power of the Tower Bridge he was with him entirely; but he had gone over the bridge before it was opened and had seen those piers standing on nothing, and it gave him a shock such as he had never quite got over. And not only was it a shock to one's aesthetic sense to know that they stood upon nothing, but there was also the question, how long would it remain a monumental bridge? They did not yet know the life of a steel structure. When they built a bridge upon a rock they knew it would last five hundred or a thousand years, but they did not know how long that steel structure would remain immovable, or how long it would be before the girders upon which it stood would have to be renewed. There was one point with reference to Waterloo Bridge which was sometimes lost sight of. Part of the grandeur of that consisted no doubt in its unaccommodating horizontal line from bank to bank. He did not know whether it was realised that Rennie got that by making an artificial slope on the south side, and that when a cab horse strained up with one from Waterloo station to the top of the hill he was doing that because Rennie wanted a horizontal bridge. The effect, however, was exceedingly

grand, and he believed it was Canova who said he should have thought it worth while to come to London only to see Waterloo Bridge. With regard to Westminster Bridge there was a curious point. That suffered from the same mistake as the Tower Bridge. Just as the Tower Bridge was supposed to harmonise with the architecture of the Tower and to be Gothic, so Westminster was to be pseudo-Gothic because it was to harmonise with the Houses of Parliament. But the outer arches that one saw were not the real arches of construction: these were inside and were of a different line, and abutted close together upon a skew-back, the result being that any movement from the traffic on one section of the bridge was communicated to the rest; that was the reason Westminster Bridge was never quite quiet. He agreed with what Professor Pite said about Putney Bridge. It was a very fine structure indeed, and Hammersmith Bridge above it was to his mind a terrible contrast; it was a most astonishing thing that the two should have been built by the same engineer. One point he should like to know: Why could they not have masonry bridges in future over the Thames? He believed the great obstacle was what he called the perfectly unnecessary fancifulness of the Thames Conservancy. The Thames Conservancy had got into their heads that the piers must be got further and further apart to allow for the Thames traffic. He would like anyone to stand by the river for two or three hours, somewhere about Vauxhall Bridge, and see what the Thames traffic amounted to—a few puffing steamers dragging two or three barges after them. Were they to have their monumental bridges spoilt simply for the sake of that? Large vessels could not pass above London Bridge, and above it there was really no traffic on the river Thames worth much consideration. He was perfectly certain that masonry bridges could be built, with the same proportions as London Bridge, which would not interfere with the traffic in any appreciable way whatever, and it was simply from an exaggerated notion of utilitarianism that they were to have steel bridges in future because arches were wanted a few feet wider. There was nothing to prevent stone bridges being made without interfering with the traffic of the river. With regard to the railway bridges, he could not help thinking that some of the very plainest of them were more agreeable than what were supposed to be the ornamental bridges, for the exact reason that they were of simple construction; and where they did not go in, as Professor Pite said, for useless capitals they did not offend against taste, because they were simple construction and did not pretend to be anything else. On the whole, whether a bridge be a stone bridge or an iron bridge, it seemed to him that, regarding it as a work of practical use, generally speaking the nearer we kept to plain construction the less likely we

should be to offend good taste. However, he quite admired the decoration of the new Vauxhall Bridge with sculpture. He thought that bridge a very great success. Granting that they must have steel bridges at all, Vauxhall seemed to him a highly artistic bridge. It was rather curious, though, that it had not been considered quite who was to see those statues on which some very eminent sculptors had been employed. The sculptures could not be seen from the bank except by special permission, as it was all private. When he went to see the bridge when it was just finished he got permission to go on one of the wharves to look at it, but there were no steamers plying up and down, and no one could see the sculptures. It was almost a question whether they should not be put inside the bridge instead of outside. There was a quantity of very fine sculpture on some of the Seine bridges, but there was a constant traffic of passenger boats up and down the Seine, and everybody could see the sculpture. If more sculpture were to be put on their bridges it would be rather desirable to consider from what point of view it could be seen by the educated class of the public.

Mr. W. E. RILEY [F.], Superintending Architect of Metropolitan Buildings and Architect of the London County Council, said it afforded him great pleasure and gratification to second the vote of thanks for Professor Pite's valuable and most interesting Paper. He had taken great interest in the bridges of London since he had been connected with the County Council, and particularly in Vauxhall Bridge. He should like to point out that Vauxhall Bridge as it now appeared received a very considerable amount of bias by the effort in the first place to make it a masonry and subsequently a masonry and concrete bridge. Before he had any connection with the scheme, the piers which formed the foundation for the five-arch spans of the bridge were already constructed and nearly to the water line. It was discovered from the restrictions laid down by the Thames Conservancy that it was not a practicable method of solving the problem. There had to be provided for the purposes of navigation at all times, even during construction, at least three openings, each having a clear waterway of 70 feet in width, one having a clear headway of 18 feet and the other of 15 feet above Trinity high water. It transpired that it was impossible to construct a masonry bridge and keep to those figures the whole time. The entire scheme had therefore to be reconsidered. The Bridges Engineer of the County Council acting under Mr. M. Fitzmaurice was in the room, and would bear him out that it became ultimately necessary to make it a steel arched bridge. The problem which was then presented was biased, as they would readily understand, by their being compelled to put five spans. It was not generally known that Mr. Norman Shaw had a grand idea

for solving the difficulties of this bridge, and that was to put an immense camber-beam from one abutment to the other, supported at intervals. If that conception could have been carried out, it would have been not only a very fine bridge, but unique in its treatment. The width of Vauxhall Bridge was 80 feet, and they would remember that tramways passed over it. He thought that, even with the present spacing, the deflection of the centre span, had the camber-beam construction been adopted and the requisite headway obtained, would have resulted in a five-inch deflection each time it was fully loaded. This of course rendered that scheme impracticable, and they had therefore to resort to an arched steel construction, which might be regarded as a legitimate solution of the problem. Personally he very much regretted that the emphasis, at any rate of one abutment, which he should like to call the ceremonial abutment of Westminster, had not been approved with pylons. Mr. Statham's criticism of the possibility of seeing the sculptured ornamentation had also been thought of; it had been at one time proposed to put an arched opening at the Westminster end to permit of a continuation of an embankment roadway alongside the river wall running through the abutment for carriage and foot traffic; but the extraordinary cost of this and the inability of obtaining the necessary amount of land rendered it impracticable. It was however made a solid abutment, so he did not suppose the proposal could ever now be carried out. He should like to have entered more fully into the details of the subject, but it was getting late, and he would therefore ask them most cordially to pass a vote of thanks to Professor Pite for his very able Paper, which must have involved an enormous amount of time and study.

Mr. W. C. COPPERTHWAIT, L.C.C. Bridges Engineer, thanked the Institute for affording him the opportunity of hearing a very interesting Paper on a matter which was of interest to all Londoners, but more particularly to himself, for he was to some degree responsible for the way in which those bridges were managed. He had had a great deal to do with Mr. Riley in the matter of Vauxhall Bridge, and he had had more to do than he wanted with the various criticisms which met those whose business it was to carry out any public work in London. It was a very great disappointment to all concerned—it was before his time—that they could not have a masonry bridge at Vauxhall. It was originally intended to make it granite. Then the idea was given up, and it was decided to make a series of mass-concrete arches—not of concrete blocks, but in single masses. That had been done on a small scale in many places in Germany, but never in a place like the river Thames. It would have been carried out in that way, only unfortunately there was a clause in the Act which prohibited the limitation of the headway during con-

struction, and that was fatal to putting any centres in. Therefore they had to think of a method to enable them to put their spans in in the solid without any temporary work whatever. That was the cause of the long delay in the completion of the bridge. But thinking the matter over when he had to take out the steelwork of the bridge, he was not sure that the trouble was not a blessing in disguise, because he did not think they could ever have had a bridge that was architecturally good within the limitations of Vauxhall Bridge, because the Thames Conservancy had so much to say in these matters. With the width of the river at Vauxhall and with the amount of waterway they were asked for, they were limited to 60 feet for the piers. As a matter of fact, they had two piers which were 15 feet 8 inches wide, and they had two other piers which were 14 feet 8 inches wide. He spoke under correction, for he would not pretend to a knowledge of architectural proportions; but if they put up a massive masonry bridge on those light piers it would, he thought, have given the effect of an architectural monument on stilts, particularly at low tide. With this type of bridge at low water those piers would look extremely poor and thin, and for that reason alone it was advantageous to have the steelwork instead of the masonry. With regard to the steelwork itself, he must say they were indebted to Mr. Riley for the way in which the architectural details were worked out. He had always had a feeling himself that the defects of steel bridges were very much more the fault of the architectural profession than of the engineers. When iron bridges were first commenced in the forties the architectural profession, he thought, rather turned up their noses at ironwork altogether. The construction of steel bridges went on for many years, as if it had no connection whatever with matters æsthetic. That had been the difficulty. It was only lately that they were beginning to realise that even in a piece of steel or iron work they could, with proper care, have a certain æsthetic effect and good value as well. He hoped that in the future, if they had any more work to carry out in London, they should have the advice of the Institute.

THE CHAIRMAN (Mr. Henry T. Hare) said he could not help thinking with regard to bridges built in a great city like London, that it was rather an architectural problem than an engineering one. The bridges across the river in the middle of London were such important architectural objects that the æsthetic consideration was infinitely more important than any other. Professor Pite had given them a most interesting historical review of the bridges over the Thames, and had told them a great many things that were new to them. He could not quite agree with all his remarks about the iron bridges, and probably what Mr. Statham said must have appealed to others besides himself. Of all the metal bridges over the Thames there

could be no dispute that the one at Vauxhall was the most successful. Nevertheless he could not help feeling great regret that it was a metal bridge and not a stone one. Mr. Riley and Mr. Copperthwaite had explained the difficulties in the way of its being built with stone, and doubtless those difficulties were practically insurmountable. But it seemed to him that those difficulties ought not to have existed. The conditions laid down by the Thames Conservancy were of a purely arbitrary nature, and had no regard to the æsthetic side of the question at all. It was ridiculous to lay down conditions of that sort which seemed to have no regard to the extremely important aspect of what was practically a public monument as well as a public convenience. As far as he remembered, when this question was discussed some years ago, one of the difficulties was not only the practical difficulty put in the way by the Thames Conservancy, but there was the question of cost. It was said, he believed, that a stone bridge would cost so much more than a metal bridge; and that comparison of cost was based on a granite bridge being so much more costly. What occurred to them at the Institute at the time was that Portland stone might have been used with equal advantage. However that might be, he thought London could congratulate itself that they had got a very excellent metal bridge at Vauxhall. He trusted Mr. Riley might be able to persuade the London County Council to put the pylons not only at one end of the bridge, but at both ends, because pylons at one end only would look rather odd—at all events from the river. With regard to Mr. Statham's remark that the sculpture could not be seen, of course if sculpture were placed on the piers of the bridge it was intended to be seen by the people who were on the water. In the same way, if pylons were put at one end of the bridge it would look very odd to anyone who was on the river if they were not put also at the other end.

PROFESSOR PITE, in responding to the vote of thanks, said that perhaps he might venture to say that he had not selected this subject. He had been honoured by a request from the Council, and it was a matter of personal regret to himself, as he was sure it must be to others, that the President, who took such a keen interest in the subject of bridge design, had gone over to the other side of the Atlantic, and was unable to be with them that evening. With regard to the really practical question of whether the next two bridges were to be iron or stone, he did not think they had heard anything that evening that was very illuminating. Of course he had not expected Mr. Riley to tell them when the bridges were to be commenced and what the cost was to be. But the bridges must come. The bridges were wanted, and the public were going to have them. It might comfort the Meeting to know that the Thames Conservancy was sunk in the Port of London Bill.

That was going right away up stream, and what the new Port Authority was going to be of course was still in the Bill; but if they did not give us a stone bridge we must know the reason why. He must say he did not understand why Vauxhall Bridge was started as a granite bridge and that the reading of the Act of Parliament was only understood when the piers got up to water level! If Vauxhall Bridge could be started as a granite bridge and got up to the water level as a granite bridge, the next London bridge must be got above the water level as a granite bridge. Then if they liked to make concrete arches with wire and stickjaw on the inside let it be so, but there must be no manner of question that they were not going to stand any iron bridge in sight of Waterloo; and sooner or later might Heaven take that Charing Cross Bridge out of the way! He thought if they worked hard enough at that they would get it, because that was just the spot where a bridge was wanted. They might have to wait for it till they got the bridge at the Temple; they must have one at the Temple first, and there they could have five arches if they liked. For himself he did not realise the impossibility of getting over the river in three masonry arches. Mr. Hare had got pluck enough to sweep the engineers into limbo, into the gas works and sewage tanks, and do all the bridges himself! He really thought that if Rennie could do the river in three arches of that shape at Southwark, Mr. Hare could do it in stone, and block it up on the top to get over Thames Street. This was not exactly joking, because the matter was in the pot. It was only stated in *The Times* on Friday or Saturday last that the designs for Southwark were brought before the Bridges Committee, and he thought the Art Committee ought to ask for them. He did not think it would be amiss if they saw what was in the pot for them at Southwark, and then when they knew that, they should be a little bit nearer seeing what they should have at the hands of the greater authority a little higher up the river. But it must be stone. They must stick to that plea. With Somerset House and the Embankment and Waterloo Bridge, they could not have anything else but masonry bridges off that embankment. They must take to boats again to see the sculpture. The steamboat service had gone, it was true. But they should have to take to yachting on the Thames. Let as much sculpture as possible be put outside the bridges so as to tempt people to take to boating. As to the general atmosphere of criticism with regard to the Tower Bridge and other things, the atmosphere of their meeting-room was peculiar; it was definitely architectural. It was affected by what was current in their own minds as architects, and it was speaking in that atmosphere that he cursed and blessed alternately to please himself only, and for that he begged pardon, and returned thanks.



9 CONDETT STREET, LONDON, W., 23rd May 1908.

## CHRONICLE.

### The President.

The President, Mr. Thomas E. Colcutt, left England for Canada last week. During his absence the Presidential functions will be performed by the Vice-Presidents.

### The Annual Elections.

The Chairman of the General Meeting last Monday, Mr. Henry T. Hare, in opening the proceedings said he regretted to have to call attention on behalf of the Council to a circular which had been issued within the last few days by a member of the Institute with reference to the annual elections which were now taking place. There could, he thought, be no objection in a general way to a member circularising his fellow-members on a subject he was interested in, but such member ought to be very certain that the statements he makes in his circular were justified by facts. The circular in question referred to the work of the Practice Standing Committee. The members of the Institute Standing Committees devoted an immense amount of time and trouble to the work of those Committees, and he was sure he was not overstating the case when he said that they, as a body, were actuated in a very thorough manner by the interests of the Institute, and that the whole of their labours were devoted to that end. Therefore, when any statements were made with reference to their work, they should be very carefully considered, and nothing inaccurate should be allowed to find its way into such statements. In the circular in question he was sorry to say there were a great many inaccuracies, a great many things which were overstated, and a great many things which were wrongly stated. In those respects alone he thought the circular in question reprehensible enough. But there was another point: this circular had been sent out in an envelope which was a colourable imitation of the envelope issued from the office of the Institute containing the nomination forms, an envelope which could not convey any other impression than that it emanated from

the Institute, and was therefore calculated to exercise an influence over those members who were voting, which was an improper influence. Such an action as that could not be condemned too strongly. It was not the first time that a thing of this kind had happened. Some years ago the same course was taken by a member of the Institute now deceased, and at that time it was stigmatised in no measured terms. The Council trusted that in the future this kind of misdemeanour might not be repeated. No doubt most of the members who received this circular would discount many of the statements it contained after what he had said. With those few words he thought the subject had better be left.

### Exhibition of M. Hulot's Prix de Rome Drawings.

Announcement has already been made in the JOURNAL that, by the courtesy of the French Government and of M. Hulot, the President had been able to arrange for the exhibition in London, under the auspices of the Institute, of the beautiful drawings made by M. Jean Hulot during his tenure of the Grand Prix de Rome. These drawings, which comprise a series of studies for M. Hulot's restoration of the Ancient Fortified Port of Solinus, were on view at the Paris Salon last year. The original intention was to hold the exhibition early in the present Session. The drawings, however, were required by M. Hulot for reproduction in his forthcoming book on the ruins of Solinus, and the exhibition had consequently to be postponed. M. Hulot now sends word that the drawings will be available for the Institute's purposes at the beginning of July, and the Council are making arrangements for their exhibition from the 13th to the 20th July in the Gallery of the Old Water Colour Society, Pall Mall East. The Committee who have the matter in hand hope to induce M. Hulot to give a Paper explanatory of his work.

### Eighth International Congress of Architects, Vienna 1908.

The International Congress at Vienna opened on Monday, the 18th inst., and closes on the 24th. The provisional programme will be found printed in the JOURNAL for the 8th February last. Various railway companies have granted special facilities and reduced rates to members travelling from the United Kingdom, and a personally conducted party left London last Friday, travelling by Dover, Ostend, Cologne, Nürnberg, arriving at Vienna on Sunday. Members travelling independently had the choice of several routes, the tickets being valid for forty-five days, allowing stops at various towns, and the option of returning by a different route. The British Section of the Permanent Committee have arranged for the International Exhibition of Architectural Work a special exhibit of English Domestic Work (exteriors and interiors) executed within the

last ten years. The collection consisted mainly of photographs, their hanging in Vienna being superintended by the Librarian of the Institute, Mr. Rudolf Dircks.

#### Suggested Minister of Fine Arts.

In the House of Commons last week Sir G. Robertson asked the Prime Minister if he would consider the desirability of creating a Minister of Fine Arts, to be in charge either of a separate department with an expert advisory board, or to hold the position, in conjunction with other duties, such as those of the Chief Commissioner of Works. Mr. Asquith, in reply, said he thought that the duties referred to, so far as the State could usefully undertake them, were adequately discharged by the First Commissioner of Works. The creation of a new office would, in his opinion, be of doubtful advantage, and would lead to an undoubted increase of expense.

#### The Housing Bill.

In the House of Commons on the 12th inst. Mr. Burns's Housing Bill was read a second time without a division.

The object of the Bill, Mr. Burns explained, was to provide domestic conditions for the people in which their physical health, their morals, their character, and their whole social condition could be improved. It aimed at securing the home healthy, the house beautiful, the town pleasant, the city dignified, and the suburb salubrious. It aimed at securing more homes, better houses, and prettier streets, so that the character of a great people in towns, cities, and villages could be still further improved and strengthened by the conditions under which they lived. On the housing side it sought to abolish, reconstruct, and prevent the slum, and it asked Parliament to efface the ghettos of meanness and the Atlantis of squalor found in many parts of the United Kingdom. It hoped to take effective steps to put down many of the unpleasant features in our purely industrial towns, and to render model dwellings, similar to those that were so prevalent in Germany, less frequent in the future than now. The Bill sought to abolish by-law streets, with little law and much monotony; to get rid of the regulation roads that were so regular that they lacked that line of beauty which Hogarth said was in a curve; to improve the health of the people by raising the character of the house and the home; and by extended inspection, supervision, direction, and guidance by the central authority to help local authorities to do more than they were doing at present. The schemes carried out at Bournville, Port Sunlight, Earswick, Hull, Wolverhampton, &c., showed that even under the existing laws, by-laws, and regulations, given the inclination, the imagination, the means, and the breadth of view, it was possible to do in exceptional instances what the present Bill sought to help other districts less favourably situated to do over a wide area. What a few public-spirited owners, companies, and corporations had done, without loss to themselves—on the contrary, it had been economically profitable for them to do it—the Bill would enable a number of

other people and associations to accomplish. In a word, the Bill provided—first, the medium of agreement, which, he believed, would prevail in 95 per cent. of the cases; then, failing agreement, conference; and, as the last resort, compulsion, imposed by the central body, which would do its best to pursue the line of least resistance in carrying out its work. It frequently happened that a large owner of land near a town who took a broad and generous view of the development of his estate was frustrated in his efforts because some intervening owner who lacked breadth of view would not co-operate in making the amenities of the neighbourhood as pleasant as they ought to be; and hitherto there had been no means of bringing all the parties together. This was a matter provided for by the Bill. Mr. Burns referred to the new Victoria Station, which he believed would be, when finished, the handsomest railway station in London. Along the western side of Victoria Station was a red brick and Portland stone wall which was a credit to the railway company and a delight to the passer-by. That was the result of a conference between the County Council and the railway directors. There were hundreds of places round London where, through conferences, there had been this co-operation between owners and the local authority. The City, in conjunction with the County Council, could not have made the enormous transformation that had been made in London during the last fifteen or twenty years without the powers given them by the London Building Act. That Act ought to be extended universally throughout the United Kingdom to every local authority, and this Bill was the first step in that direction.

The Bill also sought power to compel every County Council to appoint a medical officer of health with full powers over housing and inspection, and further it asked that default powers should be given to the Local Government Board over the rural authority and the County Council, and that there should be a limit of time for carrying out any work prescribed. If the work was not carried out, the Local Government Board would in some cases direct the County Council to carry it out, and if they did not do so, would apply for a *mandamus* to force them to take action. Where there was default under Part II.—“Closing Orders and Demolition Orders”—the Local Government Board might require the local authority to take such proceedings as they might direct. If the local authority failed to carry out a reconstruction scheme under Part II., the Local Government Board might again take action by default. All these orders they hoped to make enforceable by *mandamus*. Another useful reform was the interpretation of what was “reasonably fit.” There was an implied condition when a landlord let a tenement that it was reasonably fit for habitation at the beginning of the contract, but there was no power to make him keep it reasonably fit during the whole period of occupation, and he thought that ought to be done. They dispensed in several cases with appeals at quarter sessions. The owner would have an appeal to the Local Government Board. They raised the rateable value of houses in London from £20 to £40, and in Birmingham and other places they just doubled the rateable value. The effect of that was to bring in a class of houses in the big towns which had been converted into tenement houses and which it was not contemplated would be occupied in that way when the other Bills were passed. One objectionable state of things, of

which examples could be seen within a quarter or half a mile of that House, would come to an end if the Bill became law. An owner sometimes had several houses unoccupied for three or four years. They were dirty and untidy, and in many cases had to be shored up. The result of their being left in that condition for a long period was to prejudice adjacent property. That sort of thing ought not to be allowed to go on, and the Bill sought to prevent it.

Touching the method according to which town planning would be adopted and administered, Mr. Burns said the local authority would be enabled to make a scheme as regarded any land likely to be used for building purposes. They placed no limit to the amount of land to be so included in the scheme. That depended on the local authority itself. The scheme would schedule land, and regard would be paid to sanitary conditions, amenity, convenience in laying out land, the provision of spaces, parks, and recreation grounds, and housing. The Bill would enable the Local Government Board to authorise the borough, urban, and rural councils to prepare a town planning scheme in or about the neighbourhood of their area. If the Local Government Board were satisfied, the local authority, either by itself or in conjunction with other local authorities, might make a scheme. Failing local action, the Local Government Board could call upon the local authority to prepare a scheme. The Bill would work thus: When a local authority had determined to make an application for town planning, they would serve notice on the local landowners and other people affected. An inquiry would be held, at which owners, the local authority, the ratepayers, the artist, the architect, and the engineer would have power to make representations. He believed that in 90 per cent. of the cases town planning schemes would be brought about by agreement. Exchanges of land could be arranged. Recalcitrant owners who allowed four or five acres to prevent the development of five hundred or a thousand acres would have notice served upon them of compulsory purchase. The main object of the Bill, both in regard to housing and town planning, was to secure by agreement the co-ordination of various and conflicting interests, and to deal with objectionable owners by buying them out or by means of an exchange. He asked the House to sanction what he had been engaged upon for some time—the reorganisation of the housing and public health departments of the Local Government Board. Within the last two years, without any fuss or limelight, a hundred housing schemes had been undertaken, projected, or sanctioned by the Board. When the Bill had passed it was proposed to consolidate it with other housing Acts, this Session if possible.

#### Public Offices Sites Extension.

The Public Offices Sites (Extension) Bill was read a second time in the House of Commons on the 13th inst., and has been referred to a Select Committee of five members. Mr. L. V. Harcourt, the First Commissioner of Works, stated that its object was a continuation of the late Government's plans, which were founded on the Report of the Committee of 1897. It is a plan to complete the block of new public offices which have just been

finished and uncovered at the corner of Whitehall down Great George Street as far as St. James's Park. It is proposed to abolish Delahay Street, which will no longer be wanted as a public thoroughfare. The Government have acquired the building of the Institution of Civil Engineers, making an arrangement to rehouse them on the south side of Great George Street, and advantage will be taken of that operation to widen Princes Street, which will be a considerable public convenience. In the new building are to be housed the Board of Trade and, if possible, some of the smaller offices, such as the Office of Works or the Board of Agriculture, which are stated to be greatly in need of further accommodation. The new building, Mr. Harcourt stated, is to be completed in accordance with the designs of the late Mr. Brydoun. The cost of erection is provided for in the Budget, and a clause setting aside 600,000*l.* out of the realised surplus of last year is to appear in the Finance Bill. The Bill contains a provision for making an enlargement of the Patent Office, which is required owing to the greater amount of work entailed in that department by the Act of 1907. Power is taken by the Bill to stop up part of a nominal road in Scotland Yard which passes behind a disused police building, and an improved thoroughfare is proposed through old Scotland Yard leading to Whitehall and the Embankment for the use of the public. Mr. Harcourt stated that by doing this and stopping the part of the disused road and using the old police building he should be able to accommodate on the site a new Army recruiting station, and in that way get rid of a large remnant of St. George's Barracks and of the recruiting station behind the National Gallery. This will remove from the National Gallery and the National Portrait Gallery a building which has always had some element of risk from fire, and a site will be gained for the extension of both these galleries in the future.

#### Southwark Bridge.

A meeting of the Bridge House Estates Committee was held on the 13th at the Guildhall under the presidency of Mr. Under-Sheriff Algar, the Chairman, for the purpose of receiving designs for the reconstruction of Southwark Bridge. Three designs were submitted by Mr. Basil Mott, the engineer consulted by the Committee. The estimates for the proposed work varied between £1,000,000 and £800,000. The Committee resolved to receive at the Guildhall a deputation from the London County Council, who wished to place their views on the subject before the Corporation.

#### Fire Tests on Building Material.

The Washington correspondent of *The Times* states that the United States Government has been making some interesting tests as to the fire-

resisting qualities of various kinds of building material. For a long time its engineers have maintained that even the modern so-called fire-proof structures are not worthy of their name, and that, though their construction facilitates the smothering of fires which originate in them, they would be unable to resist the heat of a large conflagration. An attempt, therefore, is being made to find some material which will be absolutely fire-proof. Chicago has been the scene of the first series of experiments, conducted with the co-operation of the National Board of Fire Underwriters and the National Fire Protection Association.

Thirty panels were tested of various building materials, including concrete building blocks; common, hydraulic-pressed, and sand-lime brick; concrete of gravel, cinder, limestone, and granite; glazed and partition terra-cotta tile; sandstone, granite, and marble building stone. These were placed in a sliding panel, which formed one side of the furnace. Gas flames were forced against them by blasts of air in such a way as to obtain a maximum temperature of 1,700 degrees F. within half an hour of the beginning of the tests. After two hours the panel was extracted and subjected to a jet of water with a pressure of 50 lb. to the square inch. In the opinion of the engineers this was a more severe test than could be reached in an ordinary fire, though not perhaps in a wind-fanned conflagration. None of the materials passed the ordeal unharmed.

The brick panels appear to have withstood the tests better than any other material. Two kinds were tested, one made of a new brick, and the other of a brick that had been in an engine foundation for some years. The latter best resisted the heat. Fifty per cent. of the new bricks were split, while 60 to 70 per cent. of the old ones were not damaged. Those at the back of the panel were entirely unaffected. Hydraulic-pressed bricks stood the test best of all. No damage was apparent whatever after the firing and before the water was applied, and 70 per cent. of the bricks were found to be intact after the quenching of the flames. There was apparently little difference in the strength of the bricks before and after firing.

Natural building stones showed the worst behaviour of all the material tested. They were almost completely destroyed. A sandstone panel entirely collapsed soon after the heat was applied.

Difficulty was found in determining whether the concrete made from limestone, granite, gravel, or cinders sustained the least damage. The surfaces were all rather badly pitted by the fire and washed away by the stream of water. The test was unfair to cinder concrete, as the sample of cinder was poor, containing a large percentage of unburned coal, which ignited and left the surface of the concrete much pitted. The granite concrete was perhaps the best. The damage in no

case extended far into the concrete, probably not more than one and a half inches, and the evidence shows that even at this depth the temperature was comparatively low. Linen tags which were placed in the hollow concrete blocks when they were moulded emerged from the furnace undamaged. Sometimes, however, these blocks split after being subjected to the fire and water test.

As far as the experiments go they appear to prove the contention of Government experts to the effect that a really fire-proof building material has yet to be found.

#### Fire-resisting Properties of Reinforced Concrete.

The fire-resisting properties of reinforced concrete as applied to construction work are clearly demonstrated by a fire which occurred in some premises devoted to motor-car work at Dayton, Ohio, and reported in a recent issue of the *Engineering Record*. The main portion of the factory consists of a mill-construction building of five stories and basement, adjoined by a reinforced concrete building erected during the summer of 1907. The only feature of the latter building which was not absolutely fireproof was the window frames and sash, which were of the ordinary wood construction. On 21st February fire broke out on the fourth floor of the concrete building. The fire soon spread over the entire floor of that building, and, not being impeded in its progress by fire-doors between the new and the old erection, the flames were soon communicated to the old building, where the greatest damage was done. The fire burned itself out on the fourth floor of the new building, and in burning out the window frames and sash the flames licked outward and upward, and in some few instances burned the sash out of the windows the above on the fifth floor, but not so seriously as to cause material damage. It was not long before fire was confined to the old building, and in less than three hours the fourth and fifth floors and roof had fallen down on to the third floor, a charred mass of ruins. The fire was stopped at this point, but the building is a wreck. The heat under the ceiling of the fourth floor of the concrete building was so intense that some iron pipes were bent completely out of shape, in some instances having sagged down to the floor. It is interesting from the manufacturers' standpoint to know that within two days after the fire the machinery was running in this building and operations were resumed. In order to ascertain whether the structure had been damaged to any extent or had been weakened by the fire, it was decided to make a load test on the floor above that on which the fire originated. The building was designed for a live load of 120 lb. per square foot, and the girder over which the test was made had a span of 22 feet. Equal areas on both sides of this girder were loaded so as to give a uniformly distributed load. The area covered

was 352 square feet, on which were piled 77,250 lb. of pig iron and other heavy material. This gave a uniformly distributed load of about 218 lb. to the square foot, and under this load the girder in question showed a deflection of only  $\frac{1}{8}$  inch at the centre of the span.

#### Failure of a Reinforced Beam.

At Milan, according to *Il Secolo* of 16th April, Leonardo Leoni, a builder, and his foreman, Giuseppe Bianchi, were indicted for having occasioned the death of one workman and serious injury to another by the negligent construction of a reinforced beam (*un architrave in cemento armato*) on the 22nd of August last.

Among the witnesses called for the prosecution were Professors Cherubino Pinciroli, Ferdinando Leonardi, and Campanini, and for the defence Felice Mazzocchi, an engineer. The tribunal acquitted the builder Leoni, but convicted his foreman Bianchi, and sentenced him to three months' imprisonment in the first division.—JOHN HEAR.

#### Mild Steel embedded in Concrete.

At the instance of Sir John Brunner the engineering department of the National Physical Laboratory have recently carried out a series of tests to determine the effect produced on samples of mild steel embedded in concrete. The report, signed by the Director, Mr. R. T. Glazebrook, is as follows:—"A strong wooden box was made and divided into five partitions, each partition being 12 inches long,  $7\frac{1}{2}$  inches wide, and  $7\frac{1}{2}$  inches deep. Specimens of mild steel of the following dimensions were prepared:—1. One inch diameter, 8 inches long, turned all over. 2. Eight-inch lengths cut from a  $1\frac{1}{2}$ -inch by  $1\frac{1}{2}$ -inch bar with the scale left on. The partitions were half filled with good Portland cement concrete, and a specimen of each kind laid on the top, and the partitions were then filled up. This was done on 21st December 1903. The blocks were covered with water several times a week for a year, and for three months afterwards were left in the open subject to the weather. On 20th April one of the blocks was removed from the box and broken up, and the specimens removed. On examining the specimens carefully no trace of any action by the cement could be detected. The turned specimen was practically as bright as when it was put in, and the scale on the rough specimen was undisturbed. To test the possibility of any slight action the surface of the turned specimen was polished and etched and examined under the microscope side by side with a specimen of the same material cut from the centre of the bar. No difference in the micro-structure of the two specimens could be detected, and the conclusion is that in sixteen months no action has taken place between the

metal and the concrete. It is proposed to immerse one of the remaining blocks in the comparatively warm water of the cooling pond for six months, and then to examine the specimens."

#### Proposed Reformation Memorial at Geneva.

The programme is to hand of the competition which is being promoted by the Association for the Monument of the Reformation in Geneva.

The Association, which was organised at Geneva in 1900 for the purpose of preparing the forthcoming Celebration of the 400th Anniversary of Calvin, has decided to mark that event by the erection, in honour of Calvin's work, of a monument planned on broad historical lines, which will recall to the public mind, in a manner at once popular and durable, the names and influence of the Reformers in all parts of the world. The appeal the Committee then made to the whole Protestant world has been readily and generously responded to, and it is hoped that subscriptions may amount to from four to five hundred thousand francs. The Committee feel that the presentation of a plan, giving artistic expression to the conception it is desired to realise, will evoke a generous response from all quarters, and that the necessary funds will be forthcoming. To this end artists are invited to take part in a Competition for the plans, and the Committee give the following indications as to the general character of the monument:

The monument must be in celebration less of a man than of an idea, but at the same time it must be an historical monument, the commemorative value of which should be drawn from history, and represent figures and facts at once precise and concrete, and as expressive as possible of the reality. It must be a popular monument, easily understood by all, in conformity with the general instruction given in public schools; and it should be an object-lesson alike to the Genevese and to foreign visitors. This double character necessitates a monument in which sculpture must play the principal part and allegory almost none, and the essential feature should be historical figures. . . . As to the historical figures, the statue of Calvin should of course be amongst them; but as the monument is not to be in the strict sense of the word a memorial to Calvin, the Reformer should be surrounded by his most influential fellow-workers and followers in Geneva and throughout the whole Protestant world. This group, the Committee consider, should only evoke the memory of the individuals as dominated by the idea, and the more comprehensive and representative it is the more would it contribute to the commemoration of the work of the Reformers.

Another and fundamental feature of the monument is that it should be *international*. Along with the Reformers should be memorialised those statesmen and soldiers from far and near who have been the great pioneers of the Reformed Faith, the idea being to recall as strikingly as possible the unity of inspiration and of social and political development of the communities which have come under the influence of the Calvinistic Reformation.

The site of the monument is to be that section of the Promenade des Bastions which lies between the main avenue and the Rue de la Croix-Rouge. These being public grounds, much visited and very popular, it is essential to retain their picturesque and historical aspects.

The monument itself must include:

I.—The statues of Farel, Calvin, Knox, and Beza—the four Reformers who made Geneva the temporary or permanent centre of their activity.

These statues must be so grouped as to make that of Calvin conspicuous.

The memory of Luther and Zwingli, as well as the work of Peter Viret, should also be recalled in some manner entirely left to the choice of the artist.

II.—The surrounding statues must be those of the statesmen who were the leaders or declared protectors of Calvinism: Caligny; William the Silent; Oliver Cromwell; one or two of the founders of the colonies in New England; Frederick William of Brandenburg, the Great Elector. These statues should be so placed in the space allotted to the monument that each, while preserving its special importance and without being detached from the ensemble, may be viewed as a memorial to the statesman whose features it recalls.

These historical figures it is proposed to execute by stages as the means come to hand. Competitors are only requested to indicate what they consider the best way of placing them.

III.—If the artist desires to introduce a set of bas-reliefs into his composition, the subjects must be exclusively chosen from the history of the XVIth and XVIIth centuries. The Committee would like to see recalled for example, the following historical incidents:—The Preaching of the Reformed Faith in Geneva; John Knox preaching before Mary Stuart; Henri IV. signing the Edict of Nantes; The Departure from Europe or Arrival in America of the *Mayflower* with the first settlers of New England; The Presentation of the Declaration of Rights (1689) to William of Orange and Mary, proclaimed by Parliament King and Queen of England; The Welcome given by the Elector of Brandenburg to the victims of the Revocation of the Edict of Nantes.

The Competition is to be assessed by an International jury of nine members, Great Britain being represented by Mr. George J. Frampton, R.A. [H.A.]

The jury has at its disposal a sum of 30,000 francs for prizes for the best designs. The value and number of the prizes is left entirely to the decision of the jury. Designs must be sent in not later than 15th September next.

Particulars and conditions may be seen in the Institute Library and may be obtained on application to the Secrétariat de l'Association du Monument de la Réformation, 56 Rue du Stand, Geneva, Switzerland.

#### The Architectural and Topographical Society.

This Society has been founded to make and publish a Survey of Objects of Architectural and Archaeological Interest in the British Islands. The Society is controlled by an Executive Committee, assisted by an Advisory Council, at present consisting of Lord Avebury, Sir A. S. Scott-Gatty, Sir Aston Webb, R.A. [F.], Messrs. Francis Bond [H.A.], J. A. Gatch, F.S.A. [F.], T. G. Jackson, R.A., Professor W. R. Lethaby [F.], Morvyn Macartney, F.S.A. [F.], and E. S. Prior, F.S.A. [F.]. Mr. Wilfrid I. Travers [A.] is Hon. Secretary, and the Society is located at 33 Old Queen Street,

Westminster. The subscription is 10s. 6d. per annum.

It is proposed to collect, and keep for reference in the offices of the Society, measured drawings, sketches and photographs, together with an outline map showing the positions of places described or illustrated. The Society accordingly appeals to all who have any connection with ancient buildings, whether official or otherwise, to all clergymen in whose charge there are churches or other buildings of interest, and to all architects entrusted with alterations or conservation, to assist in the work. Of those whose position is that of owner or trustee the Society ask that they should only grant permission for making records of the monuments under their charge on condition that copies of such records are deposited with the Society. Architects are asked to deposit either copies, or the originals, of any notes made previous to any alterations in the Society's Library.

A further object of the Society is the publication of a quarterly journal, and the first number of this has just appeared under the title of "The Architectural and Topographical Record." Its contents include descriptions and records of the parishes of Worth Matravers and Corfe, in the county of Dorset, with pen-and-ink sketches, plans, &c. by Mr. Wilfrid I. Travers, and papers dealing respectively with the parishes of Kells, Jerpoint Abbey, Newtown Jerpoint, and Callan, in the county of Kilkenny, by Mr. Conor O'Brien.

#### Screens and Rood-lofts.

In the golden age of English church art, the latter part of the fifteenth and the early part of the sixteenth century, the one supreme achievement—always excepting the stained glass—in the great parish churches of East Anglia and Devon was the rood-screen and rood-loft. The subject, however, has never been dealt with in book form, except in Pugin's small volume, published in 1851, which is mainly illustrated by Continental examples. Recent contributions by Mr. F. Bligh Bond [F.], Mr. G. E. Fox, Mr. Aymer Vallance, and Dr. Cox have added much to the knowledge of this interesting subject, and a book is promised in a few days by Mr. Francis Bond [H.A.], author of *Gothic Architecture in England*. As in the larger work, the writer employs the historic or evolutionary method, showing how roods and rood-beams existed in the early Christian basilicas, their removal to the chancel arch, and their development into rood-screens; the superposition from the fourteenth century of a parapeted loft; the destruction of the lofts at the Reformation or their transference to the west wall of the nave, e.g. at Strensham, where the rood-screen and loft were moved bodily, and where the parapet of the loft still retains its tier of painted saints; from this it is but a short step to the galleried churches of

Wren, Hawksmoor, and Gibbs. The book is to contain 152 illustrations from photographs and measured drawings, and will be published by the Oxford Press.

#### Municipal Exhibition.

The first Municipal Building and Public Health Exhibition, held at the Agricultural Hall, and closed last week, although on a comparatively modest scale, suggests possibilities of important developments in the future, for the growth of municipal enterprise has reached a point which gives ample scope for an exhibition dealing with the many-sided activities of public bodies. The floor space of the Agricultural Hall was well occupied with exhibits illustrating the latest practice in town lighting, street paving and cleansing; while traffic problems and sanitary science were also conspicuous features. The tramways department of the London County Council was represented by fully equipped models illustrating the conduit surface contact and cable tramway systems, the Westminster City Council by illustrations of road construction and models of subways, while provincial corporations also contributed to the loan section. The advantages of concrete for building construction were illustrated in several exhibits. Among the lectures delivered was one on "Reinforced Concrete in Municipal Engineering," by Mr. W. Noble Twelvetrees, which appeared in full in some of the building journals last week.

#### The late J. J. Stevenson [F.].

We have to record, with deep regret, the death of Mr. John James Stevenson, F.S.A., which occurred at his residence, 4 Porchester Gardens, on the 5th May, at the age of seventy-six. The Hon. Secretary, Mr. Alexander Graham, F.S.A., in announcing the sad event at the General Meeting last Monday, said:—There are probably few names more familiar to us or more deserving of our respectful regard than the name of our late colleague, Mr. J. J. Stevenson. He was a man of considerable attainments, and, like a true Scotsman, very earnest in everything he did and a very close reasoner in working out anything entrusted to him. He was a very skilful architect, and I should like to say a few words regarding something in his career which is deserving of our attention. I would refer especially to the conspicuous part he took in a movement some forty or fifty years ago with a few others—some of whom, I am happy to say, are still living—with a view to improving house architecture, not only the planning, but the general aspect and the use of materials that for a long time had been out of fashion. I may allude to a very noticeable building in Bayswater Road, called the Red House, which he built for himself, and which altered the character of street architecture in London. This was followed

by a number of others of his own design in Kensington and elsewhere, all possessing considerable merit and showing undeniable individuality. I cannot emphasise this fact more fully than by quoting from an excellent work which Mr. Stevenson published on House Architecture as far back as 1880. The quotation which I will give you was evidently written at a much earlier date. He writes: "Within the last year or two there has been a revival of the 'Queen Anne' style for town houses and even for streets. The fashion seems to be spreading. It has received some accession of force from the schools of the London School Board, planted in every district of London. For the architecture of a few of the earliest of these I am responsible, having found by the practical experience of a house I built for myself in this manner that the style adapts itself to every modern necessity and convenience. It is as pliable as Gothic, having inherited its freedom, and is properly a brick style, and therefore specially suited for London houses." I think after this statement we can but give credit where credit is due, for the co-operation of John Stevenson in this movement, which has resulted so satisfactorily to us as architects in recent years, ought not to be lost sight of. We all know that the domestic architecture of England is classed very highly by our brethren abroad. Perhaps in no other country is domestic architecture so much regarded as it is in England. To add to this, to show how much Mr. Stevenson did in this movement, I may say that at the Congress which was opened to-day in Vienna, and from which unfortunately so many of us are absent, the exhibits of British architects are restricted entirely to photographs of domestic architecture in recent years. That shows, I think, that we should give credit to those who pioneered this movement, which has led to such satisfactory results. It only remains for me in my official capacity to ask you to bear in mind the services of our good friend who has gone from our ranks, and to approve of a letter of condolence being sent on behalf of the Institute to Mrs. Stevenson and the family, expressing our very high appreciation of the services rendered by our late colleague John Stevenson in the promotion of architecture and the attendant arts in this country during a long and meritorious career.

The motion was passed in silence.

Professor Beresford Pite [F.], on rising to read the Paper printed on foregoing pages, said: "Before reading my Paper I should like to say with regard to our late Fellow, Mr. Stevenson, that a few years ago I had the privilege of very close communication with him at the Royal College of Art in connection with his scheme for the restoration of the Mausoleum at Halicarnassus. The very great interest and the extraordinary antiquarian knowledge that he displayed in that particular subject has had a very considerable influence upon all the notions of what form that most mysterious but most interesting

building took. Stevenson's name will live in connection with the Mausoleum as an antiquarian. I should also like to mention another matter on which he felt very deeply, and in which he exercised a very considerable influence on the profession at large, and that was in restraining the over-restoring zeal that beset the profession a generation ago. Mr. Stevenson was one of the first with courage enough to withstand the tide that was bringing such a stream of silver and gold into the pockets of the profession."

Mr. Stevenson had been a Fellow of the Institute since 1879. At one time he was a regular attendant at the Institute meetings, and he contributed some very able Papers to the *Transactions*. A sketch of his professional career will be given in the next number of the *Journal*.

#### The Colonial Examinations.

The following Probationer, who passed the Intermediate Examination held in Sydney, N.S.W., in the month of December last, has been registered as *Student R.I.B.A.*:—

GREENWELL: CARLYLE [*Probationer* 1907]; "Holston," Powell Street, Killard, Sydney, N.S.W.

### ALLIED SOCIETIES.

#### Royal Institute of the Architects of Ireland.

At the General Meeting of this Institute, held on 7th May, Mr. Frederick Batchelor [F.], *President*, in the Chair, the following resolutions were passed unanimously, viz.:—

"That on the earliest opportunity the Council shall take such action as it considers most advisable to secure the inclusion of a Chair of Architecture in the new Irish Universities."

"That in view of the national character and importance of the contemplated buildings in connection with the scheme for the new Irish Universities, the Government be petitioned to promote a competition among architects resident and practising in Ireland for designs for the proposed buildings."

#### Northern Architectural Association.

The Council of the Northern Architectural Association, in their Annual Report, observe: "It is a matter of general regret that the depression in the building and allied trades is so great, there being little likelihood of an immediate improvement. In view of this the Council have received a representation from the Practice Committee expressing regret that so many young men are entering the profession at the present time, and pointing out

the effects of this overcrowding. The Council feel it a duty to the ratepayers broadly, and to the profession personally, to protest most earnestly against the institution of a large, costly, and permanent architectural staff, set up by the Newcastle Corporation, knowing that if public work was placed in ordinary competition the ratepayers and the art of architecture would be benefited. With the employment of private firms the cost would cease on the completion of the work, whereas the cost of the permanent staff never ceases, and architects, who are all ratepayers, are contributing to funds the effect of which is causing their unemployment."

A list of ancient buildings in Newcastle-upon-Tyne and the vicinity has been prepared and issued by the Northern Association for the use of architectural students. Copies may be obtained from the Hon. Secretary, 6 Higham Place, Newcastle-upon-Tyne, price 6d.

### MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session 1907-08, held Monday, 18th May 1908, at 8 p.m.—  
Present: Mr. Henry T. Hare, *Vice-President*, in the Chair; 28 Fellows (including 11 members of the Council), 37 Associates (including 3 members of the Council), 1 Hon. Associate, and several visitors, the Minutes of the Annual General Meeting held Monday, 4th May 1908 [p. 409], were taken as read and signed as correct.

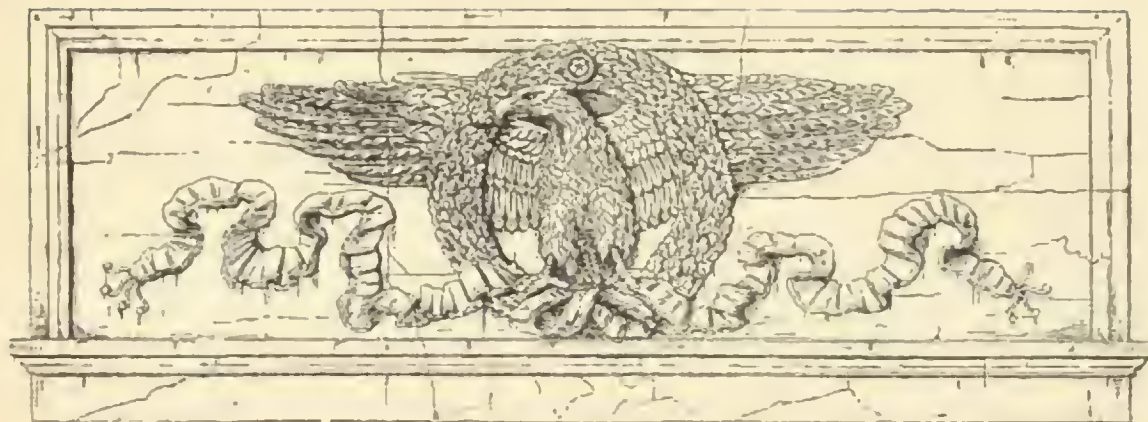
The Hon. Secretary announced the decease of John James Stevenson, F.S.A., *Fellow*, and referred to his eminent services to architecture, especially in relation to domestic work: whereupon it was resolved that a letter of condolence be sent on behalf of the Institute to Mrs. Stevenson and family expressing the high appreciation of members for the services rendered by their late colleague in the promotion of architecture and the attendant arts in this country.

The following Associates, attending for the first time since their election, were formally admitted by the Chairman, viz. Max Edward Stahl and Leo Sylvester Sullivan.

The Chairman, on behalf of the Council, made a statement characterising as a misdemeanour which should not be repented the action of a member who had issued, in envelopes colourably imitating the Institute official envelopes, a circular containing inaccurate statements respecting the work of the Practice Standing Committee, such proceeding being calculated to exercise an improper influence over members in recording their votes in the annual elections.

A Paper by Professor Beresford Pile [F.], on *The Architecture of the Houses of London*, having been read and illustrated by lantern views, the subject was discussed, and a vote of thanks passed to the author by acclamation.

The proceedings having terminated, the Meeting separated at 9.50 p.m.



## MATERIAL. By PAUL WATERHOUSE, M.A. Oxon. [F.]

An Essay read before the Leeds and Yorkshire Architectural Society on 12th March 1908.

*Forma non s' accorda.*

*Molte fiate alla intenzion dell' arte*

*Perch' a risponder la materia e sorda.*—DANTE, *Paradiso*.

THE Essay which I here bring before you is written round a single word, the word *material*. "Material," in fact, is my title, but I preferred for purposes of your calendar to substitute the longer expression which appears on the card,\* fearing that the one word would be misunderstood. "Material" would (who knows?) have raised an unpromising vision of Baltic timber brands and Fletton bricks; or, again, it might have engendered entirely false hopes in the direction of reinforced concrete or patent floors. I resolved, therefore, to keep back the word until I should have the opportunity of explaining what I mean by it.

I believe that some ancient thinker defined art as the *application of the infinite to the finite*. I withhold his name simply because having tried in vain to verify the authorship I am beginning to conclude that I dreamt the saying. The definition is perhaps not a very close one in the case of our own art, architecture, but it certainly suggests an interesting line of thought, and one that lies close to the argument which I ask leave to put before you this evening.

**Art is Skill and Material.** I am not going to weary you with any home-made definition of art, nor even with a definition of architecture, though I am sorely tempted in this direction by finding that my last effort was just so long ago that I have forgotten the terms of my own formula; I will, however, ask you to follow me far enough into the region of truism to recall that while from one point of view every art can be analysed into the two elements of an End, and Means to that end, from another it can be described as Skill plus Material—"Mind and matter" you might say, but erroneously; for Skill, if you examine it, is sometimes both more and less than mind, and Material, as I propose to show, is in our art at least often more than matter. Skill may be partly an affair of hereditary and physical ability of a kind that is hardly mental, and may also be so closely involved in genius as to be almost above the mental sphere. It is safer, therefore, not to speak of art as mind and matter, or even as the infinite applied to the finite, but rather as Skill and Material.

You will say that I am disregarding *tools*, which are an essential part of the performance in most arts. I have not forgotten them, but I think we may set them aside in the present consideration as being, when properly viewed, really a part of the material.

\* "Some Modern Conditions of our Art."

Now very possibly you think me pedantic and tedious for descending at this length into questions of definition which are abstract speculations rather than words of practical import. But I hope to show that this word-splitting business is not really without its purpose nor without its bearing on our daily life. The ever-interesting inquiry into the true nature and field of our art is not mere theory. It is a real help, if we conduct it honestly, in the problems of our craft.

In fact it is my belief that the success which crowns the efforts of some of our contemporaries and the failures which sometimes dog our best-meant endeavours are really often due respectively to knowledge and ignorance of the true scope of architecture. In other words, I believe that we sometimes err through ignorance of the nature and extent of what I am here calling by the name of "Material."

**The Material of  
Architecture,  
what is it?**

What is the material of architecture? The readiest answer is that the material of architecture is the same as the material of building, architecture being no more than the art of building gracefully. But to this answer I object totally. It is wrong; and the measure of its wrongness is equal to the iniquity of that inefficient definition of architecture which dubs it glorified building—making architecture, so to speak, a mere adverb of the verb "to build." If every art is truly defined as skill plus material, then obviously material covers everything we make use of outside our own natural or supernatural endowment. You see at once that I am going to include under the term more than bricks and mortar, slate and stone, wood and plaster. You will guess that I mean to throw in, to begin with, the whole office panoply, the T squares and drawing-boards, for tools of all sorts as I said just now are rightly classed as part of the material. But, indeed, I mean to go farther than this. You will guess, again, that the client's money, or rather the sum of money which the client authorises the architect to spend, is also in many ways worthy to be ranked as an element in the material. And now that I have mentioned money—and money with a limitation—you will see more clearly the lengths to which I mean to take my subject. Most architects, I suppose even the most thoughtless, realise that money is in a sense the material of which they build; but not always do they recognise that the material at their disposal is not money in general, but a certain sum of money. If I mention the word "site" in the same connection, you will see that I want to suggest that the conditions and limitations of space, no less than of cost, are in themselves, as limitations, an integral part of material.

There is, as you know, a school of architects, men for the most part whose names are not the least in the kingdom of architecture, who would describe their professional and artistic obligations in some such way as this:—

"I am an artist. I have a reputation as an artist to cherish; I have also a manner or style of my own to preserve. My work must be lasting, and it must be good, and, above all, it must be essentially and inalienably mine. My brother the painter brooks no interference with his choice of colours, with his style of drawing, or with the size and shape of his work. My brother the sculptor won't be dictated to in his choice between marble and bronze, and he certainly won't put a Roman nose on to the bust of a monkey-faced man just to please the sitter."

"Architecture," he goes on to argue, "is an art of quite as high standing as painting and sculpture; its ideals are as pure, its aims as high; so that unless I stand up boldly for my own intentions whenever they clash with those of my employer I shall be not merely tarnishing my own reputation, but actually dragging down the art which I represent."

To their great honour, be it said, the exponents of this theory very often go the sacrificial length of throwing up their work rather than commit what they honestly feel to be a violation of their mission as artists. I will yield to no one in reverent respect for those who put their ideals of art before their opportunities of gain. This is nobility, even where it is quixotism.

But what I want us to ask ourselves to-night is whether the attitude of the man who thus heroically, to use the common phrase, quarrels with his bread-and-butter is always in the right from the purely artistic point of view. In fact, to bring the matter round to our subject, is it not possible that he misses the meaning of the word "Material"? Is it possible that by striving to overrule some of the conditions set before him he is in reality not vindicating or liberating his art, but really flinching from his art's opportunity? For to the artist every obstacle is not a rock of offence, but a stepping-stone.

Or, to change the metaphor, let us recall that in the hunting field the successful way of negotiating fences is not to have them removed, still less to go home in high-minded disgust.

The Relation of Architecture to other Arts. The co-ordination of our great art with painting and sculpture is a very deceptive one.

It has more than once been my task to dwell on the false analogies that are bred by this association, and I hope you will forgive me for returning to them here again. I believe that if we apply our enlarged views on the subject of material to all these arts, we shall not only brighten our vision on the interesting subject of the interrelation of the three, but maybe we shall gain a clearer knowledge of the true nature of each. It is of course true that just as brick and stone are not the whole material of the architect, so paint and canvas, clay and marble, are not respectively the whole material of the painter and the sculptor.

A child and a savage believe that the art of the painter and the sculptor consists in imitation of natural objects—a view which was largely held even by great ones among the men of old, and that even in the most cultured days of Greece and Rome.\* It is a view which is to-day held, not merely by children and savages, but by vast masses of town councillors, commercial travellers, clergymen, and princes.

We know, however, that to the true philosopher of art such a view is puerile; that verisimilitude, however faithful, is not in itself art; that the presentment of nature is but a basis, so to speak, of the painter's and the sculptor's arts. In fact, if we treat these arts as we are treating architecture, we shall be ready to look on this business of imitation with which painter and sculptor are concerned as being in a sense material. It is a part of the rules of the game, one of the conditions; and as such it stands, not as the end of painting or sculpture, but as one of its preliminaries or data.

Put the matter another way. If you are going to regard building—weather-proof accommodation—as the end and essence of architecture, then you may legitimately consider imitation as the essence of the sculptor's and the painter's arts; but if not—and I think you will not—then it becomes abundantly clear that the correlation of architecture to the sister arts is a very different relation from that usually imagined, and a very much closer one; much closer for this reason that, instead of raising a barrier by saying that painting and sculpture are imitative arts, while architecture is a constructive art, you realise that, intimately as the arts are connected with the imitation and the construction respectively, the art itself is beyond them both—if not outside them, at least above them.

In deposing building from its position as the essence and crown of architecture, and in deposing imitation from the same eminence in painting, I am not making light of either. Far from it. Each is a *sine qua non*, an essential condition without which the results of the respective arts are unattainable. Indeed, it is a mere platitude to say that imitation alone is not painting, photography and the making of casts being instances of imitation which falls short of the painter's and the sculptor's arts. And of course it is equally a truism that building is not architecture.

\* I do not say that the art of the ancients was simply imitation; we know that it far transcended mere representation. But the writers who allude to painting and sculpture did not, I think, recognise or talk about the higher aspects.

But my point, to get back to it, is that the artists of the other arts are just as likely to mistake the limits of material as we are, and that it is essential in all the arts to regard material as inviolable, except in certain directions.

Shall I admit that imitation and building lie so close to the artistic element in their respective arts that in the matter of technique they are indissolubly mixed? The elimination of the elements is a philosopher's business, not the craftsman's; we can only prove the distinction by realising that the imitation and the building can be done, and marvellously well done, without the art; *ergo* the art is separable from them, and they are not it.

In one sense we have brought architecture nearer to painting and sculpture by recognising that in these latter imitation lies on the side of material rather than on the immaterial or spiritual side of the craft, yet there is a wide difference between architecture and the sister arts in this very point—the extent to which it is influenced by material. A sculptor busy on a Psyche for a patron contends on the material side with, let us say, the properties of marble, the lighting of the room in which his figure is to stand, the necessity for making his figure anatomically like a woman, and, finally, such important trifles as the warming and lighting of his own studio, his food, his temper, and perhaps his wife's temper. All these are material, and on the other side stands skill, and involved in it that mysterious relation which a man's ego bears in the realm of thought to heaven and hell, and to the world of men and women, to poetry, to prose, and to the classical dictionary. But the list of forces on the material side is in the architect's case a longer one, and one less capable of influence, of alterations, to meet our needs.

Material slow  
to answer.

Here perhaps I may be allowed to tell you what influence it was that made me choose "Material" as the subject of this Paper, and what has made me give to material this special sense.

Dante in a verse of the *Paradiso* speaks, by way of metaphor, of the frequency with which works of art fail of their perfection because the material will not answer—is deaf, is unresponsive. The passage set me thinking of architectural failures and of those things whose deafness, whose unwillingness to answer, contribute to those failures. Heaven knows the failure is often enough due to no outside cause. But whether it is due to impotence within or to force without, we realise in the light of Dante's suggestion that the material with which *we* are concerned, the externals with which *our* art plays and works, must be wider in range than those things which are material to the builder.

Dante's metaphor implies perhaps that in cases the deaf matter is too stubborn for the artist's call, and maims what should be their perfect offspring; but Dante would not teach a doctrine of general hopelessness. Failure there may be, and matter may be the cause; but the stumbling and fall of one and other here and there is but a challenge to others to overcome. Material may be deaf, our call should be the louder. We must take it as we find it, but we must not leave it so. Our coat may be, must be, cut according to our cloth, but we shall see, if we are artists, that it *is* a coat.

I have indeed come very near to defining material as the unalterable; but to so call it would be ridiculous, for the marble from which Michael Angelo has dragged a Madonna is certainly altered, and the clay of Buckinghamshire is magically transformed before it becomes the stately stock brick vault of the Cathedral at Westminster.

Material must be  
handled in ac-  
cordance with its  
own Natural  
Qualities.

But what I do mean, and may rightly mean, about the unalterableness of material is this, that there are at least certain properties in each of the things that I am classing as material that ought rightly to be considered as unalterable, so that that is a point at which each material says *no* to the artist. And what I am coming to by these roundabout rumblings is just this point, that the "no" which pulls us up in one avenue after another is a refusal to be respected, not

necessarily to be fought. Stone says, I won't span an opening more than so many feet wide; wood says, I won't bear a transverse strain of more than so many hundredweight; brick says, I won't keep out the weather under certain conditions; iron says, I will rust if you leave me naked; marble says, I decline to look respectable out of doors in London: all these are commonplace of our craft in the region which we familiarly call "Material."

The refusals, the "noes," are just as emphatic and just as worthy of respect in the wider realm which in this Paper I am admitting to the title "Material," and whenever the *no* comes it is a challenge to the artist's skill, not a barrier to his aspiration. The ten yards of frontage say *no* to your attempt to build a forty-foot façade; your employer says *no* when you attempt to force on him a Palladian villa in substitution for the bungalow his soul desires; his purse says *no* when you design a ten-thousand-pound house to meet his six thousand pounds of savings.

The Employer, is he too a part of Material? Here you are quite at liberty to say that it is the architect's business to throw unwelcome daylight into the brain of the client who wants, so to speak, to get a quart for the price of a pint. That is true enough. One of the architect's duties is to tell his employer what money can do, and what it won't do. We are all familiar with the gentleman who has studied the *Studio*, and Mr. A's book on Country Homes, and Mr. B's book on Cottages, and Mr. C's book on Bungalows, with the result that he *knows* he can get a house with ten bedrooms, two bathrooms, a billiard-room, stables, usual offices, and three large reception-rooms for two thousand pounds. Are we, you will ask in derision, to accept this good man's desires and his means as two unalterable factors in the compound of material? Certainly not. But the right way of showing him the way out of his difficulty is surely this:—"Dear Sir," you will say to him, "I am willing to work under conditions—'it is my nature to,' as Dr. Watts says—but you have brought me for a start two irreconcilable conditions; you and I must confer and reason with each other. The sculptor couldn't make you a life-size figure out of a four-foot length of marble; the painter couldn't paint you a full-colour portrait if you deprived him of half his colours. You must decide which of your two desires is the stronger—the desire to spend only two thousand pounds, or the desire to get the accommodation you have scheduled."

A result of this conversation may possibly be a solution of the dilemma; but it may also happen that being a hot-headed pair of disputants you agree to separate. The client—client no longer—will tell you and your extravagant notions to go to Jericho, and you will tell him to go back to his handbooks on cheap houses—a course which will end in his employing and sweating a meeker architect to do the plans, while he will take credit for the designs himself. He will, moreover, inevitably face the money difficulty without the benefit of your advice and consolation.

This, of course, is the wrong result; chiefly because you have forgotten that your own hot temper and that of your client are elements in the material with which you have to deal. Instead of approaching your ungainly block of marble like a Michael Angelo, and stealing from it chip by chip a goddess or a saint, you have flung your block away. This is not art. It is simply misapplication of material.

The Age of Miracles. Remember, a client with large needs and small means is quite a legitimate problem and quite worthy of solution. You cannot work a miracle, you say. But why not? A miracle is only a marvel, and a marvel is a very simple synonym for a work of art. If you cannot work miracles you may be a builder; but you are not an architect, that is, an artist.

I haven't said that you can go *all* lengths in miracle; you cannot actually and literally give your client a quart for the price of a pint—or if you do it is probably a quart of poison—

but you can with faith, which moves other things than mountains, do the incredible, which, after all, is much the same as the impossible.

But I see that I am in danger of rather inverting or distorting my argument. My meaning in this context merely is that the providing of the largest possible house for the smallest possible figure is one of the bits of material that is well worth the artist's skill.

**Purpose is Material.** Purpose, again, special purpose, in a building is a quality in material which even nowadays is too often regarded as a factor which may be made to give way to supposed artistic considerations. This is terrible heresy. There are few men left who would insist on applying cusped Gothic windows to a chemical laboratory, but there are lots of architects who will stoutly maintain that the desire of shopkeepers for large areas of plate glass is a demand to be withstood tooth and nail in the sacred name of art.

There is no doubt whatever that the purpose of a building, specially one built for a scientific or technical end, is an element in material which admits of no deflection or distortion. I honestly believe that any concession made to an architect's notions of design which diminishes in any sense the efficiency of a technical building is, so far from being a tribute to art, nothing more than an admission of the artist's failure. This consideration brings us at once face to face with the question of tradition—the place occupied by tradition and precedent in the region of design.

**Tradition a sad Crux.** The obligation of all architects to the happy bondage of tradition is in itself part of material in our new sense of the word.

It is the plea expressed or unexpressed that he must not wander from traditional forms that most usually lands an architect in the predicament of hampering the usefulness of a technical building by concessions to design. We must be very tender with the architect here. His trouble is that material is being deaf in the most cruel degree; his case is a hard case, for his duty is heavy on both sides of the scales.

Some honest folk would say, "Don't bring an architect to bear at all on a building whose direct and utilitarian needs are quite at variance with the fancies of architecture." Indeed, some architects themselves would say, "Don't call me in to build your warehouse or your factory. I must be true to my craft, and it is not a craft that recognises the possibility of artistic work in buildings of a purely commercial or technical character. Architecture," he will go on to say, "is concerned with buildings which for one reason or another have a character which elevates them above the bare necessities of economic housing; it is further bound up with certain traditions which have nothing whatever in common with prosaic and modern utilitarianism. If a building is of such a kind that the fulfilment of its structural necessities is at variance with preconceived notions of style, in such matters as roof form, window sizes, and the like, it is better left quite frankly to those constructors who are not burdened with obligations towards the honourable traditions of architectural form."

But I ask you, Can such an argument possibly be right or sound?

**Deus ex Machina.** There was a rule among the playwrights of Greece and Rome respecting the introduction into their dramas of the supernatural. The difficulties of dramatic composition being in those days perhaps as acute as they are now, inferior writers were apt to make an undue use of the device of divine intervention. The entrance of a god upon the stage which would ennoble a drama already noble, if used as a mere subterfuge by the incapable author to help his muddled characters out of a situation into which his own incompetence had driven them, brought discredit alike on the dignity of the drama and the honour of the gods. Therefore said Horace in his rules for poets, Don't introduce a god into your play unless you have a problem worthy of his unravelling.

Is it in the spirit of Horace, and with the airs of Olympus, that an architect holds back

from such tasks as we have been discussing? If so, I think the architect may step down from his godhead—or, better still, let him realise, as he surely may, that, so long as the building that cries out for his help is honourable in its purpose, it comes within Horace's definition of a knot worthy of a god's untying.

**Dignus vindice nodus.** Be it never so strange in its character, so new in its needs, or so revolutionary in its appeal against traditional form, it is impossible to conceive of any building the designing of which is beneath the dignity of an accomplished architect's skill. It may present by its problem a material which is unusually deaf; but the prince among architects is he who will call from that deafness an answer, not he who meets the deafness with dumbness.

By this time I think I hear someone whose patience is nearly exhausted say, "This view of yours about material, this grouping under the name of material, not only all the physical products with which building is effected, but also half at least of the operations in which the architect displays his talent, is a ridiculous whittling down of the sphere of the art itself. You have defined architecture by elimination, and have left but an invisible needle point as the residuum."

I think I will answer this first by an illustration. There is a story in the autobiography of Berlioz which relates that when he was wandering, apparently without purpose, on the shores of the Mediterranean he was arrested as a suspicious person and subjected to a police-court trial. "What was he doing?" said his tormentors. "Composing," said the composer. At that they laughed aloud, and with an air of conviction reminded him that musical composition was not to be accomplished without the aid of a grand piano.

I was going to say that good planning though an essential element in good architecture was one of the things that have to be set down on the material side; the remembrance of this story assures me that I may almost go further still.

All the outward and drawing-board manifestations of the design as well as all the manifestation in wood and stone are *grand piano*, in other words are material. The art, the architecture, is an inner thing which the architect may bear about with him on the sea shore, and run therewith the same risks as Berlioz. Happily a drawing-board as a badge of sanity is more easily carried than a pianoforte. Shall we, then, merely carry drawing-boards because there are fools about who may misunderstand our motives if we show no other evidence of occupation than a hand pressed to a heated brow? Heaven forbid! The drawing-board lies closer to the brain than that. In fact you will spring out at me with the observation that the parallel to the drawing-board in the musician's realm is not the grand piano at all, but the sheet of ruled music paper. And you are quite right. The fact of course is that the parallel must not be pressed too far; its value really lies in this, that just as the musician can do the deepest and highest part of his work without making any such outward demonstration of it as is visible or audible to the police, so most architects will acknowledge that many of their toughest problems have found their solution, not through the point of a pencil, but in pure brain exercise carried out in bed perhaps or by the aid of a pipe at the fireside.

This talk about music reminds me of another point which will help our argument. The mistake made by the *gendarmérie* in the case of Berlioz was not merely a misunderstanding of the method of musical composition, but a subtler and commoner mistake; the confusion of one art with another. There are in the kingdom of music, two arts—perhaps more—the art of the composer and the art of the executant; and if you come to think of it these arts differ in the scope of their material, a reflection which at least suggests the possibility that the difference between one art and another is largely the difference between their materials. At all events we discover what Aristotle discovered long ago, that every art of any consequence

has subsidiary arts attached to it. I am not sure whether we ought not rightly to reserve the term "art" for the sovereign or primary arts, finding some other title for the less or ancillary crafts.

An Art often  
confused with an  
Allied Art.

In music, for instance, there is a clear line to be drawn between the creative art of the composer and the interpretative skill of the conductor and the orchestra. But it was, as we saw, a confusion between the composer's art and the performer's which led to Berlioz's arrest, and the same confusion leads to trouble in the other arts.

The people who find art in a picture which is merely a realistic representation of a natural object, whether it be a slice of salmon or a race-horse, are making the mistake of the prosecutors of Berlioz, and similarly those who think a man a good architect merely because he is a good constructor make the very same mistake. And it is my belief that we can reduce these mistakes to misapprehension of material. I will not stay to discuss now why it is that the man who can imitate salmon-slices and race-horses in paint is not thereby entitled to the name of artist, whereas the musical conductor, the singer, and the violinist are or may be; but it is clearly demonstrable that what is the goal of a subsidiary artist or craftsman becomes in turn material to his higher brother. In music indeed the interpretative craftsmen are themselves the material of the conductor, and he in turn is the material, or a part of the material, of the composer.

In painting there is no such despotism of the master painter over craftsmen, but still that imitation of nature which is to the salmon-and-racehorse man the acme of skill becomes to the real artist material; and the architect we see once more vindicates his claim to kinship with the musician by having among his material, not merely the full craft of the constructor, but a whole army of constructive beings, general contractors, tradesmen, labourers, and even artists of sublimest art.

**Recapitulation.** Perhaps I may now pull these roving thoughts together with a brief rehearsal of the argument in other language. I think I might sum the matter up thus: All arts may reasonably be analysed into the two elements of Material and Skill. The justice of such an analysis is obvious; and if once this division is admitted it becomes clear that all which is not skill in any given art is a part of the material. In fact even the merely physical part of the skill seems almost to fall on to the material side of the balance. In any case it emerges as fact that in most of the arts the realm of material is a much wider one than is generally supposed, and that in our own art, the art of architecture, the word "Material" may legitimately cover a surprisingly large field. To assume that the material of the architect is the same as that of the builder is to misunderstand altogether the range of the artist's opportunity. Material means in any art the whole army of externals with which the brain of the artist has to contend, his obstacles, if you care to call them so—in other words, his means of expression. This question is not one of merely artificial or academic importance. The necessity of appreciating the true limits of material in architecture as in other arts lies in this, that the craftsman has to take material as he finds it. He has indeed to transform it—it is this transformation or metamorphosis which is the very act of art—but in the beginning his business is to take it as it comes, and to treat it *according to the laws of its own nature*. If, then, the architect once realises that material for him includes not merely bricks and mortar, but such things as the shape and value of a site, the employer's needs, the employer's means, and all the other legitimate conditions of his problem, including before all things the practical purposes of his building, he finds his mind relieved of certain scruples which sometimes assail an architect's conscience, or, in the absence of a conscience, his pride. His responsibility as regards material in this large sense is restricted first to making sure that the

material is worthy, and honest, and next to being certain that he (the architect) is making the very best use of it.

There are certain conditions of architectural design which are often (and wrongly) looked upon as controllable by the architect; there are certain others which are often (equally wrongly) considered prohibitive of architectural treatment. But if both these classes of conditions are relegated, as they certainly should be, to the department of material, we should on the one hand put a check on many architectural extravagances which arise from a misguided departure from legitimate and authoritative conditions, and on the other architects would be encouraged to persevere in handling certain problems which nowadays too often run the risk of being considered beneath an architect's notice.

It is quite easy at this point to put a false meaning on my suggestion. You might accuse me of recommending architects to go and do what they are told by their clients without disputing the conditions set before them. But, indeed, my argument carries with it no such conclusion. My intention in classing the client—I prefer, by the way, to call him the employer—among the material is not that the architect should, so to speak, swallow him whole (for that is not the legitimate use of architectural material), but rather that the architect should deal with him at least as reasonably as he does with the other means at his disposal.

An architect is an adviser, like a medical man, and one of his duties is diagnosis—diagnosis of the employer's needs—which may not necessarily be identical with the words in which he first expresses them; and the architect who carries out unreasonable orders without question is guilty of a double misuse of material. He has probably misused his employer's money; he has certainly misused his own talent.

Last week my eye fell upon a strange story from a book on Persia, which is a ludicrous comment on the relation of architects to their employers on the one hand, and to material on the other.

A king of Persia, in days gone by, was a mighty hunter. One day with many friends he made an unusually large bag of big game. The day of sport was followed by a day of feasting, during which an attempt was made to consume the entire proceeds of the slaughter. This was unlike a modern sportsman, but the king showed the modern spirit in a desire to keep the heads as trophies. No hall or staircase could have accommodated them, so he sent for an architect, of all people, and ordered him to make the heads into a neat pyramid. After a while the architect returned, smiling, to the monarch to report progress. "Have you finished?" said the king. "Not quite, sire," said the architect; "I still need the head of some conspicuous beast to crown the whole." "Conspicuous beast!" said the king, who loved a jest, "your own head shall be honoured." So they cut off the architect's head and, to the satisfaction of all the company, planted it on the top. According to some accounts the heap of skulls may still be found in Ispahan surmounted by what is evidently the skull of an architect.

Even this ridiculous tale has a moral. What you and I should have done would have been, no doubt, to take instructions attentively; but noticing that the king was in a state of unreasonable excitement, and not fit to give orders, we should have gained time by promising to call again in the morning with a  $\frac{1}{4}$ -inch scale elevation of the proposed pyramid. Considering the period in which the event occurred, I am afraid that the poor fellow deserved what he got. Nowadays the punishment is less humorous and less severe, but it is still possible for architects to do things just as silly as building up a bleeding pyramid of dead heads. A foolish order should not be capped by a foolish performance, or in the end one fool may off with the other fool's head. On the other hand, I hold that nothing can excuse the setting aside by an architect of conditions relating to cost and requirements, provided that

such conditions are reasonable. Nothing can justify an architect in believing that a problem in design is unworthy of his attention because either of its simplicity or of its special or technical character. New needs and strange needs, large ambitions and small means, these present difficulties, no doubt, and obstacles; but obstacles are in art's vocabulary only synonyms for opportunities. The tough marble waiting to be hewn into a Venus is but a parallel to the obstinate material of the other arts. For artists there are no real impossibilities even among the acute difficulties of modern civilisation. Tradition, our great mistress, may sometimes seem irreconcilable with technical or commercial needs; but all that is needed in the hardest case is a miracle, and a miracle is only another name for a work of art.

## REVIEWS.

### TUDOR HOUSES.

*The Domestic Architecture of England during the Tudor Period. Illustrated in a series of Photographs and Measured Drawings of Country Mansions, Manor Houses and smaller buildings, accompanied by an Historical Descriptive Text, including a large number of Plans and Details. By Thomas Garner and Arthur Stratton. To be completed in Three Parts. Part I. Pp. Lond. 1908, price 2l. 2s. [B. T. Batsford, 94 High Holborn, W.C.]*

This is one of those sumptuous and charming books for which Mr. Batsford has become famous during the last ten or twelve years. It takes up the story of English domestic architecture some hundred years before the period dealt with in *The Architecture of the Renaissance in England*, and, when completed, it will show not only the work of Tudor times, but also how the purely English tradition was affected by foreign influence, and will link up the work of Henry VII.'s time with that of Elizabeth.

The captious critic might conceivably object that the scope of the book is at variance with its title; and indeed even the little piece of special pleading in the Introduction hardly reconciles us to the application, in an architectural sense, of the term Tudor to Elizabethan and Jacobean buildings, as well as to those of the time of Henry VII. and Henry VIII. Surely the need in architectural nomenclature is to find means of differentiating phases of style rather than of confounding them.

But when this grumble is over there is nothing further of importance to cavil at, and it is a continual pleasure to turn over the pages of the text and the splendid illustrations. The introduction is a scholarly piece of work, not merely of architectural but of general interest, treating the change of style not from a narrow, technical point of view, but from a broad, historical standpoint. The descriptions of the various plates give a succinct account of the buildings illustrated, with enough of their history to enable the reader to place them

in their proper sequence in the story of architectural development; and if they sometimes leave him with a few points unexplained, he must remember that nothing short of a lengthy monograph could do all that he would desire in this respect.

We all know in a general way how rich England is in fine examples of domestic architecture, but a book like this brings the fact more vividly before us, particularly by the help of the large and excellent photographs, which enable anyone armed with a magnifying-glass to grasp the minutest detail of moulding or carving. The Tudor period seems to be as rich in examples as the Elizabethan or the later phases of the Renaissance, and the thanks of the public are due to the authors and publishers for bringing to our knowledge, in so complete a manner, buildings of which we have heard from time to time, but which it is the lot of few to be able to visit. The late Mr. Garner had made a special study of this phase of English work, and after his death it was not easy to find anyone competent to take up the task where he left it; but in Mr. Stratton the right man was found—a skilful draughtsman, with a knowledge of his subject, and enthusiasm in setting it forth.

The first thing about the houses here illustrated that strikes the student of domestic architecture is that they were built for pleasure rather than for defence. The days of jealously guarded entrances and of small windows were passing away. They had not yet quite ceased, however, and as a rule the windows are small compared with those of a century later. But where they are in safe positions, or where they light important rooms, no great restriction was placed upon their extent, and, especially in bay-windows, they afford many charming and not a few magnificent examples. Such are the grand range of windows at Forde Abbey (Plate x.) or the bay-windows at South Petherton (Plate xii.), Thornbury Castle (Plates xxvii., xxviii.), Horham Hall (Plate xxix.), Hengrave Hall (Plate lvi.), and the three examples on Plate cxlv. Not only were the rooms thus made cheerful, but they were often

elaborately decorated, both as to the walls and the ceilings. The former were panelled, largely with the linen pattern, and later with work in which there was a considerable infusion of the Italian influence. A fine example of both these types is to be seen at Thame Park (Plate xxvi.). Incidentally it may be doubted whether the statement on page 54 that the "spur" doorway (of which there is an example at Thame Park) owed its origin to Tudor times, can be substantiated, inasmuch as frequent references are made in the Liberate Rolls of the time of Henry III. to some kind of inner porch, which was variously denominated the "sporan," "sporun," "sperum," and "esperum."

The ceilings of Early Tudor times were formed of heavy moulded beams carrying others of lighter scantling; later they were flat with rectangular panels formed by moulded ribs of wood, and later still, according to our author, of plaster ribs; but the date of the first plaster ribs has yet to be definitely fixed, and it is very doubtful whether the date will be found in Henry VII.'s reign, or indeed much before the middle of Henry VIII.'s. Perhaps in the succeeding parts of the book Mr. Stratton may be able to throw light upon this interesting point.

One or two other matters may be mentioned as being debatable. It is suggested that the Tower at Cothel was placed where it is for the sake of the view. It is doubtful how far a "view"—that is, the pleasure of looking at beautiful scenery—affected the disposition of any house before the middle of the eighteenth century. The term "withdrawing room" is applied to the family room adjoining the great hall in several early examples. Is there any authority for the use of this term before Elizabeth's time? Would not "parlour" be more correct?

These, however, are trifles, and do not detract from the value of the book. Mention must be made of the plans of houses, which show the stage of development at which dwellings had by this time arrived—considerably in advance of their predecessors, but neither so commodious nor so ingeniously planned as those of the end of the sixteenth century. The measured details are excellent, admirably drawn, and carefully executed, in spite of a slip on Plate xxiv. (detail at A), where two dimensions, obviously different, are figured alike. The photographic details are also excellent, and do full justice to the vigour of the subjects, notably on Plate cxxxix., which exhibits bits of heraldic modelling as fine as anything to be found in England. If the remaining parts of the book maintain the high level of the first, it will form one of the most valuable additions to an architectural library which have appeared in recent years.

J. A. GORCH [F.].

Kettering.

## ENGLISH VILLAGES.

*The Charm of the English Village.* By P. H. Ditchfield, M.A. Illustrated by Sydney H. Jones. 8s. Lond. 1908. Price 7s. 6d. net. [B. T. Batsford, 94 High Holborn, E.C.]

"Of all situations for a constant residence, that which appears to me most delightful is a little village far in the country." So wrote Miss Mitford; and although so remote a place of residence may not be equally delightful to everyone, and some, indeed, may find themselves more in agreement with the Italian person of quality, who said: "Had I but plenty of money, money enough and to spare, The house for me, no doubt, were a house in the city square," yet no one can be altogether insensible to the beauty of our English country-side and the charm of its numberless scattered villages.

The charm of these villages increases with one's knowledge of them, and for the benefit of those whose knowledge is limited Mr. Ditchfield has written his latest book. In it he shows how much the village owes to the geological formation upon which it stands, and how dependent its appearance is upon the quality of the local building stone. Thus a village in a granite district differs in many ways from one in a locality in which is found a free-working limestone; and both these, again, are markedly different from one where building stone is unobtainable, but where timber is plentiful. This endless variety of our villages is one great cause of their charm; another is their permanence. Who can tell the age of a village? When, why, by whom was it founded? Who gave it its name? Who laid out the road upon which it stands? Such questions are easy to ask, but the answers to them are lost in the dim twilight of the dawn of history in this island. Since that far-off time numberless generations have come and gone, but the village remains; not, of course, altogether without change, but with surprisingly little. The road through it may still follow the line of the one which the Roman engineers made—or, perhaps, more correctly, re-made—at the time of the Roman occupation. The mill which the Conqueror's surveyors noted when they were making the returns for the Domesday Book may still, perhaps, be found, although no longer continuing its life of usefulness. And the church tower may have been a familiar object to the neighbourhood since the twelfth century. "The old tower of the village church," writes Mr. Ditchfield, "seems to say, '*Je suis, je reste.*' All things change but I." Why the church tower should be made to speak in ungrammatical English, however, or why it should misquote MacMahon's historic phrase, is not evident.

And then when one comes to take a village in



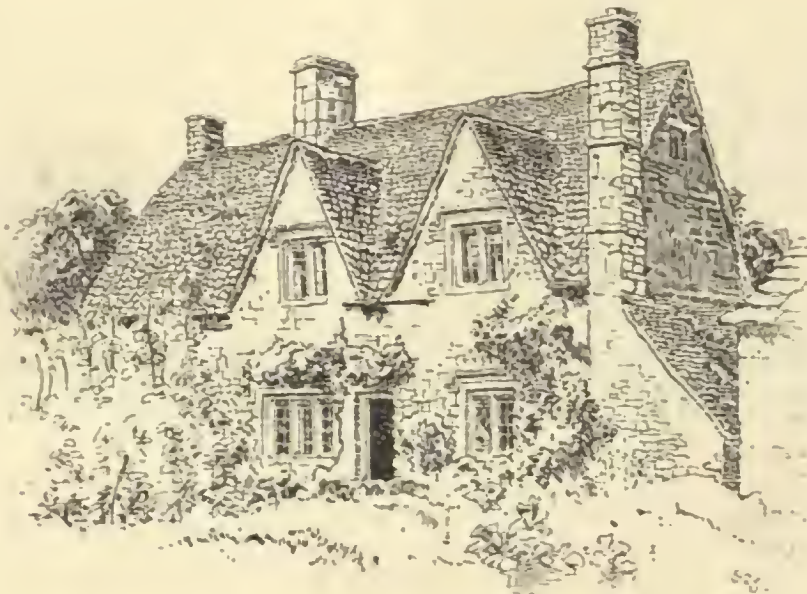
ABBOTS MORTON, WORCESTERSHIRE.  
(From *The Charm of the English Village.*)

detail what a wealth of interest and charm there is in its several parts—in its church, its manor-house, its cottages with their clipped hedges and gardens full of flowers, its shops, its inns, its grammar school, its almshouses, its green, its bridge, and so on! Upon all these Mr. Ditchfield has much to say, as well as upon such lesser matters as sundials and weathercocks, pillories, ducking-stools and whipping-posts, wayside and other crosses, barns and dovecotes; and everything he says is interesting.

The illustrations, of which there are no less than 120, form a most important feature of the book, and deserve a special word of praise. These are all by Mr. Sydney R. Jones, who has a remarkably wide and intimate knowledge of our English villages, and who is well able to portray their many charms. The character of his work may be well judged from the examples which, by the kindness of Mr. B. T. Batsford, the publisher, are here reproduced.

*Erdington.*

BENJAMIN WALKER [J.].



COTTAGES AT WINNUN, GLOUCESTERSHIRE (COLN VALLEY).  
(From *The Charm of the English Village*.)

## A FEW DAYS IN FRANCE.

By J. D. CRACE [H.A.].



LE PETIT ANDELY AND THE CHÂTEAU GAILLARD

**R**OUEN, Chartres, Le Mans—all familiar names to architects, but as fields of study inexhaustible, for do they not include the noblest triumphs of Gothic architecture? Do they not also contain perhaps the finest stained glass in Europe, unsurpassable in beauty and of amazing extent?

The halt of a few hours at Rouen was, on this occasion, chiefly devoted to St. Ouen. Well known as it is, at each visit this noble church seems to impress one more. The simplicity of the vertical lines which aid and express the great height—that quality, perhaps, which first holds the attention—the lace-like effect produced by the light admitted through grisaille glass and through the double tracery of the triforium, and the further lighting of the great windows of the clerestory, all help to annihilate sense of weight; it seems a natural growth rather than a construction. It is to be noticed, too, how important a part the stained glass plays in the general effect. Apart from the charm of the colour it has a sort of constructive function, for by averting the abrupt contrast of structure and daylight the whole seems connected and continuous, where white glass would have left the stonework detached and thin. The

perspective is finely closed by the three long windows of the apse, with their "rose" heads, the glass in which, although partly of assorted fragments, is singularly effective in relation to the whole.

St. Ouen is a fine introduction to the grander churches of Northern France.

It was on the morning of Palm Sunday and under a doubtful sky that we passed through the great west portal of Chartres, between those columnar archaic figures which, with their air of dreamy mystery, seem to have evolved themselves from the stone. From the wan gleam of sunshine of the chill spring morning we suddenly find ourselves in what seems like darkness for the first few moments—a warm darkness with lustre of jewels here and there—and as the eye adjusts itself to the contrast we recognise the great piers of the nave and a black mass of worshippers filling the floor-space. Gradually we are aware of the forms of the windows breaking the rich gloom. But what windows! It is not the chill daylight that they admit, but a glorious harmony of deep and luminous colour, which seems to transform everything; temple, columns, worshippers no longer are part of the cold outer world. I cannot imagine a

man so callous as not to be affected by this marvellous transmutation.

A broken pane here and there seems only to give added brilliancy to the colours. A group of lighted candles in a side chapel give bright points of yellow light, and just reveal in warm tones a great column and intersecting curves of vaulting ribs above; below, always the black groups of kneeling forms. I think no one can realise what a cathedral may be until he has seen Chartres, or such another (if there be another), with its windows entirely filled with the finest stained glass. This is almost all of the thirteenth century, and includes not only the small groups of figures within geometrical forms, as at Canterbury or Amiens, but grand single figures of more than life size in the clerestory lights and transepts, and traceried rose windows of unequalled beauty and size. Stained glass in detail can probably be studied as well, or better, elsewhere. Nowhere can the magnificent completion of result be seen as at Chartres; for the building is worthy of it, and it is everywhere. Only from a few windows of the choir has it been removed, alas! the better to light an eighteenth-century deformity; but both the latter and the windows in question are unseen in the great perspective.

But, after all, the glass is but one of the perfections of this noble pile. Such a work could only be possible to a great wave of religious enthusiasm, as was indeed here the case. Artistic labour has been lavished wherever room could be found, often where it must remain unrecognised. Yet nowhere have the grand lines of the building been disturbed. The devoted labourer has to be sought for. From the twelfth century to even the end of the fifteenth century sculpture, the finest of its time, has been executed in and about this building, mere fragments of which would be treasures. I shall have to revert

to the earlier work, but of the later I may point to the exquisitely carved pilasters outside the enclosing screen of the choir, some of which cannot be surpassed in Italy.

Returning to the exterior, I think it will be admitted that the spire of the north-west tower—the one of open tracery—is rightly judged by Fergusson the most beautiful of its kind in Europe. The wonderful detail never disturbs the poise and fine proportion. It has an effect of "spontaneity"

in which I think it excels Antwerp, Vienna, or Strasburg. When we return to the three great entrances—of the west, north, and south—we find the interest grow with each examination. It seems little short of marvellous that they remain so slightly injured through all the stormy periods of their existence. In the west front we have those sculptures of the twelfth century, with their conventional forms and rich archaic details, still capable of affecting the mind of the spectator with an influence by no means purely archæological; but, from the latter point of view, one must be struck with a certain similarity of treatment in these figures and the archaic Greek. The straight folds of the draperies, with occasional expression of articular action, are extremely similar. This is also noticeable with the advances of art. In the north



STATUES IN THE SOUTH PORCH, LE MANS CATHEDRAL.

porch (thirteenth century) there is still a similarity of progress which seems to follow on much the same lines. A little more freedom, a closer observance of nature with a studied simplicity. But the finer sculpture of France in the thirteenth century has often reminded me of Early Greek work. I may instance the porch at Le Mans and the musician angels of Strasburg interior.

One cannot pass by the figures of these great doorways without noticing how unusual in detail are the pedestal columns which carry them. Those of the west front resemble rather Lombardic work,

while the curious "baluster" forms of those of the north porch remind one at first sight of the forms and elaboration of the Certosa. It is only on closer inspection of the detail that it becomes evident that they are really a part of the original work of the thirteenth century. There are small figures in the vault of this porch some of which are worthy of Peter Visscher. But this is not the place for criticism in detail. A world of sacred history and tradition is illustrated by innumerable figures and groups in these porches and in the stained glass. Besides an extensive hagiology\* are to be found most interesting illustrations of many trades and crafts of the guilds by whom the windows themselves were presented.

Pre-eminent as is the cathedral, it is by no means the only storehouse of magnificent glass in Chartres. The Church of St. Pierre in the lower part of the old town, to the south-east—in itself a fine church—is, for its size, almost equally full of magnificent stained glass of somewhat later date. Nowhere can be seen a more brilliant effect of early fourteenth century glass than in the five great windows of the apse, and again in the large clerestory windows occur life-size figures of saints and prophets superb in colour. In these windows the curious expedient is used of alternating (vertically) coloured lights or panels of those figures and lights of grisaille with borders of colour. In perspective the effect is good, but I do not think this treatment a satisfactory one. The church is chiefly of

the thirteenth and fourteenth centuries, and it is here that are the remarkable enamels of Léonard Limousin—single figures of the Apostles on white grounds.

The river-side in the same region presents many picturesque features, including one of the old town gates. Half-way down the steep side of the town, in the building now used as the "Crèche Communal," is the outer shell of a fine old timber-work outside staircase, probably of the early sixteenth century.

From Chartres one reaches Le Mans in about two hours. The two towns themselves, although occupying very similar sites, present a sharp contrast in general appearance. Chartres has the somewhat faded air of having seen better days. Le Mans, on the contrary, strikes one as being now in the very height of prosperity. New municipal buildings, post-office, banks, residences, all on a handsome scale, are much in evidence. The ancient church of Notre Dame de la Couture is the only bit of antiquity seen on arriving, and that is fenced by a gilt modern railing. It is near the river and near the cathedral that the remains of the past are to be found. But the town is much changed since I first saw it forty years ago.

The most striking external characteristics of the cathedral are its vast flying-buttresses and its great clerestory windows with their geometrical tracery, and it is precisely these features which are first seen on approaching it from the centre of the town. Practically there is but one approach for the stranger, and that from the south-east, with a large open space in front, from which an ornamental flight of steps ascends to the cathedral, the buttresses and chapels of the apse forming the conspicuous feature. Seen, as I first saw it long ago, by the full moon on a summer night, it is unforgettable. Within the building the most



FROM NORTH PORCH, CHARTRES.

\* A curious example of the naïve and literal rendering of allegorical idea occurs in the south transept windows, where the four Evangelists are represented (riding pick-a-back) on the shoulders of prophets—St. Luke on Jeremiah, St. Matthew on Isaiah, St. John on Ezekiel, St. Mark on Daniel.

impressive thing, at first sight, is the greatly increased height of the choir, with the magnificent glass of its windows. Their fine tracery and the beautiful triforium may share admiration. In the transept the cusping of the triforium arcade has been so worked as to form a fleur-de-lys.

But it was now the latter part of Holy Week. Services were continuous; the great church was full of worshippers; and it was not a time for the noting of details. Yet, even to one coming from Chartres, the Cathedral of Le Mans is an impressive and noble church, and worth a pilgrimage. West of the cathedral and behind a row of houses, the ground falls sharply to the river. On this steep bank stood the old castle, of which nothing remains but a fragment of wall here and there; but portions of the old fortified walls of the town are to be seen further south, near the river, with some bits of Roman work. On a level with the cathedral, and almost opposite the south door, is the old Grande Rue with many old house-fronts. Here is the so-called "House of Berengaria," an interesting building, of perhaps the fifteenth century, now in private hands and a good deal restored, but with much of the original. It contains an interesting museum of antiquities of all kinds—



SAINTE-PIERRE, CHARTRES.



STAIRCASE, CHARTRES.

furniture, armour, ironwork, &c.—well worth a visit.

On leaving Le Mans we made our way back, through Paris, to Les Andelys and the "Château Gaillard." The Church of Le Petit Andely, though small compared with those already mentioned, is a fine church, with a singularly short nave. It has some good glass of a later period.

Thence we made for Caudebec en Caux, full of quaint houses, and with its beautiful church and spire, well known to us already. It is another notable example of the lavishness and finish of French architectural detail. The exquisite labour on a church in this small town seems incredible. The windows are filled with rich glass of the sixteenth century, comparable in some ways with the Fairfax glass, but generally finer in drawing and detail. The clerestory windows are of white or grisaille glass with coloured borders and large roundels.

The apse is remarkable as having one angle and

column in the centre, so that it terminates in an angle, instead of one face, of a hexagon. The triple-crowned spire is the chief glory of Candebec, and may well be so; for, indeed, we have nothing in England to compare with this beautiful church.

Yes, we must allow that the noblest and richest forms of Gothic art are to be found in France, and the most devoted labour.

We can only stand grateful and astonished that incessant wars and great tempests of human passion and destructive madness have left us so much of the exquisite art and labour of bygone generations of skilful and devoted men. These noble piles that now look down on us with a serene calm,

temples which represent and richly illustrate the Christian faith, have looked down on what horrors of war and cruelty and bloodshed, on what grief, what despair! Can the same race of men raise such fabrics for the religion of peace and do such deeds in its despite?"

Well might the Psalmist exclaim, "Lord, what is man that Thou art mindful of him?"

*Easter 1908.*

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In 1793 some 10,000 men, women, and children were massacred in the streets of Le Mans—5,000 in one small "Place."



LE MANS CATHEDRAL.

## REPORT ON DRY-ROT.\*

By PAUL OGDEN [F.].

*Short Definition of Dry-rot.*

1. Authorities generally assert that dry-rot is a state of decomposition of timber induced by dry-rot fungi, the commonest, most destructive, and best known of which is *Merulius lachrymans*.

2. It is a remarkable fact, and well known, that *Merulius lachrymans* is a domestic fungus peculiar to dwelling-houses and other buildings, and not found in the forest.†

3. Professor Hartig, who has devoted much time to the investigation of "dry-rot," has shown that this particular kind of red or brown streaking is due to the ravages of *Polyporus vaporarius*. The mycelium of this fungus destroys the structure of the wood in a manner so similar to that of the *Merulius* that the sawyers and others do not readily distinguish between the two. The mycelium of *Polyporus vaporarius* forms thick ribbons and strands, but they are snowy-white, and not grey like those of *Merulius lachrymans*; the structure, &c., of the fructification are also different.‡

4. Now *Polyporus vaporarius* is common in the forests, and it has been found that its spores may lodge in cracks in the barked logs of timber lying on the ground.§

5. The suspicion may well gain ground that this important subject has by no means been exhausted.

*Favourable Conditions to the Generation of Dry-rot.*

6. The peculiarity in the case of the spores of *Merulius lachrymans* was found by Hartig to be the necessity of the presence of an alkali, such as ammonia; and it is found that in cellars, stables, and other outhouses where ammoniacal or alkaline emanations from the soil or decomposing organic

\* These extracts have been kindly prepared for publication by Mr. George Hubbard, F.S.A. [F.], who with the President and Mr. Paul Ogden [F.] were cited as witnesses in the recent dry-rot case at Manchester—*David Lewis Trust and Levy v. Graham*. Mr. Ogden prepared a voluminous report dealing with the case, and embodied in it a digest of the whole subject of dry-rot. The best authorities have been consulted by Mr. Ogden, and the extracts, with their references, should form a valuable addition to the literature of the practising architect. The possibilities of dry-rot appearing in any building is a standing menace, and the subject is therefore one of particular interest to the profession. Mr. Ogden's gleanings have been set out in such a concise and clear form that it is felt that no better method could be adopted than to quote directly from his report.

† H. Marshall Ward, *Timber and Some of its Diseases*, p. 193, lines 6-9.

‡ *Ibid.* last paragraph, p. 193, to line 2, p. 195.

§ *Ibid.* p. 195, lines 7-10.

|| *Ibid.* p. 194, last three lines.

matter can reach the timber there is a particularly favourable circumstance afforded for the germination of the spores. The other conditions are provided by a warm, still, damp atmosphere, such as exists in badly ventilated cellars and corners, and beneath the flooring of many buildings.\*

7. A large series of comparative experiments, made especially by Hartig, have fully established the correctness of the conclusion that damp foundations, walls, &c., encourage the spread of dry-rot quite independently of the quality of the timber. This is important, because it has long been supposed that timber felled in summer was more prone to dry-rot than timber felled in winter; such, however, is not shown to be the case, for under the same conditions both summer and winter wood suffer alike, and decrease in weight to the same extent during the progress of the disease.†

8. The dark stagnant air in cellars and under the boarded floors of the ground story is very congenial to fungus growth.‡

9. Linoleum or kamptulicon on floors is also objectionable; and, indeed, whenever a floor has been washed and scrubbed it should be thoroughly dried before any covering whatever is laid down.§

10. The positions in which dry-rot occurs are those where the timber is exposed to warmth and damp stagnant air.

The principal parts of buildings in which it is found are:—

In warm cellars, under unventilated wooden floors, or in basements, particularly in kitchens or rooms where there are constant fires. "All kinds of stoves are sure to increase the disease if moisture be present."

The ends of timbers built into walls are nearly sure to be affected by dry-rot unless they are protected by iron shoes, lead, or zinc. The same result is produced by fixing joinery and other woodwork to walls before they are dry.

Oilcloth, kamptulicon, and other impervious floorcloths, by preventing access of air and retaining dampness, cause decay in the boards they cover. Carpets do the same to a certain extent.

Painting or tarring cut or unseasoned timber has the same effect.

Sometimes the roots of large trees near a house penetrate below the floors and cause dry-rot.||

\* H. Marshall Ward, *Timber and Some of its Diseases*, p. 184, lines 7-18.

† *Ibid.* last paragraph, p. 185, to line 2, p. 186.

‡ W. H. Bidlake, *Dry-rot in Timber*: first two lines of last paragraph on p. 17. § *Ibid.* p. 17.

|| Livingston, *Notes on Building Construction*, vol. iii.: last four paragraphs on p. 392, and first three paragraphs on p. 393.

11. There is this particular danger about the dry-rot—viz. that the germs of the fungi producing it are carried easily, and in all directions, in a building where it once displays itself without necessity for actual contact between the affected and the sound wood."

#### General.

12. Thoroughly dry timber, so long as it is kept thoroughly dry, is proof against the disease we are considering. Nay, more, the fungus is peculiarly susceptible to drought, and the mycelial threads and even the young fructifications growing on the surface of a beam of timber in a damp close situation may be readily killed in a day or two by letting in thoroughly dry air; of course the mycelium deeper down in the wood is not so easily and quickly destroyed, since not only is it more protected, but the mycelial strands are able to transport moisture from a distance. Much misunderstanding prevails as to the meaning of "dry air" and "dry wood"; as a matter of fact, the air usually contains much moisture, especially in cellars and quiet corners devoid of draughts, such as *Merulius* delights in, and we have already seen how dry timber rapidly absorbs moisture from such air. Moreover, the strands of mycelium may extend into damp soil, foundations, brickwork, &c.; in such cases they convey moisture to parts growing in apparently dry situations.†

13. The best knowledge to hand seems to be that no difference is observable in the susceptibility to dry-rot of winter wood and summer wood of the same timber—i.e. *Merulius lacrymans* will attack both equally if other conditions are the same. But air-dry and thoroughly seasoned timber is much less easily attacked than damp fresh-cut wood of the same kind, both being exposed to the same conditions.

Moreover, different timbers are attacked and destroyed in different degrees. The heart-wood of the pine is more resistant than any spruce timber. Experimental observations are wanted on the comparative resistance of oak, beech, and other timbers, and, indeed, the whole of this part of the question is well worth further investigation.‡

14. It must first be borne in mind that this fungus spreads, like so many others, by means of both spores and mycelium; it is easy to see strands of mycelium passing from badly diseased planks or beams, &c., across intervening brickwork or soil and on to sound timber, which it then infects. The spores are developed in countless myriads from the fructifications described, and they are extremely minute and light: it has been

proved that they can be carried from house to house on the clothes and tools, &c., of workmen.\*

15. Hartig proved that the spores can be carried from the wood of one building to that of another by means of the saws of workmen.†

16. Mr. McWilliam observes: "If the fungi proceed from the slime in the fissures of the earth they are generally very ramous, having round fibres shooting in every direction. If they arise from the roots of trees their first appearance is something like hoar frost, but they soon assume the mushroom shape." Hence it appears that we frequently build on spots of ground which contain the fundamental principle of the disease, and thus we are sometimes foiled in our endeavours to destroy the fungus by the admission of air. In this case the disease may be encouraged by the application of air as a remedy. When workmen are employed in buildings which contain dry-rot, and when they are working on ground which contains the symptoms of this disease their health is often affected.‡

17. In ordinary houses, where floor-cloth is laid down in the front kitchen, where there is no ventilation under the floors, and where a fire is burning every day in the stove, dry-rot often appears. In the back kitchen, where there is no floor-cloth and only an occasional fire, it rarely appears. The air is warm and stagnant under one floor and cold and stagnant under the other; at the temperature of 32 to 40 degrees the progress of dry-rot is very slow.§

18. At No. 29 Mincing Lane, London, in two out of three rooms on the first floor, upon a fire-proof floor constructed on the Fox & Barrett principle (of iron joists and concrete with yellow-pine sleepers, on strips of wood bedded in cement, to which were nailed the yellow pine floor-boards), kamptulicon was nailed down by the tenant's orders. In less than nine months the whole of the wood sleepers and strips of wood, as well as the boards, were seriously injured by dry-rot, whilst the third room floor, which had been covered with a carpet, was perfectly sound

#### Prevention of Dry-rot.

19. The great safeguard, beyond taking care that no spores or mycelium are present from the first, is to arrange that all the brickwork, floors, &c., be thoroughly dry before the timber is put in contact with them, or to interpose some impervious substance—a less trustworthy method. Then it is necessary to aerate and ventilate the timber, for dry timber kept dry is proof against dry-rot.¶

\* H. Marshall Ward, *Timber and Some of its Diseases*, to line 11 on p. 189.

† *Ibid.* last three lines of first paragraph on p. 189.

‡ T. A. Britton, *Dry-rot in Timber*, last paragraph on p. 10 to line 12, p. 20.

§ *Ibid.* last line on p. 186 to end of first paragraph on p. 187.

|| *Ibid.* paragraph 3 on p. 187.

¶ H. Marshall Ward, *Timber and Some of its Diseases*, paragraph 2 on p. 191.

\* Hixington, *Notes on Building Construction*, paragraph 5, p. 393, from Britton.

† H. Marshall Ward, *Timber and Some of its Diseases*, last six lines on p. 181 to end of paragraph, p. 185.

‡ *Ibid.* last two lines on p. 186 to end of paragraph 3 on p. 187.

20. There can probably be no question of the advantage of creosoting the ends of rafters, beams, &c., since the creosote will act long enough to enable the timber to dry, if it is ever to dry at all.\*

21. Wood must not only be dry, but be kept dry. This is impossible if the air of the chamber in which it is built is damp, as it condenses and absorbs moisture. To secure dryness, therefore, moisture must be prevented from rising from the soil by a layer of asphalt or concrete; from rising up the walls from the foundations by a damp-proof course; from soaking through the walls by building an air-drain, so that no earth is allowed to be in contact with them above the damp-proof course; unless asphalted outside or built hollow; and, lastly, by securing thorough ventilation, so that there is no corner where the air can stagnate. All vegetable soil must be removed from the site, for ammoniacal exhalations assist the germination of spores; the drains must be sound, and the mortar made of clean sand.

Salt sea sand should not be used, as it attracts moisture. The house should be well dried before the floors are laid, and kept thoroughly well ventilated. I may here point out the fallacy of burning gas for purposes of drying; for, inasmuch as water is one of the products of combustion, it has quite an opposite tendency.

Any substance or device which imprisons moisture within wood, or prevents free evaporation from its surface, or maintains a damp atmosphere in its neighbourhood, will be almost sure to develop dry-rot. It will be wise to assume that the spores are there, and are only waiting for a congenial environment to germinate.

Damp or ill-seasoned wood, therefore, should not be covered with paint or tar, nor wood partitions with wire netting and plaster of Paris. Ordinary plaster, however, seems sufficiently porous. Linoleum or kamptulicon on floors is also objectionable, and, indeed, whenever a floor has been washed and scrubbed it should be thoroughly dried before any covering whatever is laid down.

The dark, stagnant air in cellars and under the boarded floors of the ground story is very congenial to fungus growth, and it is a fallacy, very prevalent with architects and builders, that the insertion of air-bricks in the wall, below the floor level, ensures ventilation. A current of air is not at all a necessary consequence; indeed, I have heard of a case in which the fungus was found growing within the air-brick. In order to induce a current there must be difference of density between the inside and outside air. It will be well, therefore, to carry up an air-flue from the under floor-space along with the smoke-flue of the room above. The air-bricks should be so placed that there are no corners of stagnant air, and they must not be too near the

outside ground level, or they will become choked with dirt. They are often inefficient through rust, and are not infrequently closed by ignorant people.\*

22. If chips of wood have been left by the carpenters lying about under the floor, they are almost sure to be infected, and are frequently the origin of an attack of dry-rot, for not only can the fungus be traced to them, but it is found growing most luxuriantly on them. So important is it to take precaution in this matter that it would be well if architects insisted in their specification on every chip being cleared away below boarded floors. Even when the ground has been covered with concrete the precaution is necessary, for the chips may become infected before the concrete is dry, and the latter is frequently fractured by the settlement of the walls.†

23. The ends of beams and joists should always be left free, and, if built into the wall, there should be a clear air-space surrounding them, which may be lined with asphalt if necessary.‡

#### *Methods of eradicating Dry-rot.*

24. Every trace of fungus should then be scraped from the timber, brickwork, or wherever it is found, and the surface of the soil, if exposed, should be removed, for it will contain spores; the whole should then be burnt without delay. If the timber is at all badly attacked it would be better to cut it out, burn it, and replace it with new.

If this cannot be done the beams should be soaked with corrosive sublimate dissolved in methyl alcohol. Methyl alcohol has great penetrating power, and acts as a vehicle to convey the corrosive sublimate into the texture of the wood, evaporating in time, and leaving the corrosive sublimate behind to do its work. The inflammable nature of methyl alcohol must not be forgotten.

Carbolic acid, or a strong solution of copper sulphate (blue vitriol) in boiling water, may be substituted. The walls and concrete floor (if any) should be washed with carbolic or sulphuric acid or Condy's fluid, and the air might be disinfected with advantage by burning sulphur.

In a slight attack the wood may be covered with hot limewash.

Notwithstanding, however, the fact that decayed wood will absorb the washes more readily than sound, these do not penetrate very deep; and as only those parts of the mycelium are killed which are in contact with the poison, the deep-seated hyphae may remain as active as ever. The rot is not stayed, but its ravages are now hidden from view.§

\* W. H. Bidlake, *Dry-rot in Timber*, last paragraph on p. 16 to end of first paragraph on p. 18.

† *Ibid.* paragraph 3, p. 18.

‡ *Ibid.* lines 3-7 in paragraph 3, p. 19.

§ *Ibid.* last three paragraphs on p. 22 and first three paragraphs on p. 23.

\* H. Marshall Ward, *Timber and Some of its Diseases*, first four lines of second paragraph on p. 198.



9 CONDUIT STREET, LONDON, W., 6th June 1908.

## CHRONICLE.

### THE ANNUAL ELECTIONS.

The results of the elections, with the numbers polled, as reported by the Scrutineers, will be found set out in the Minutes of the Business Meeting last Monday [p. 483], when the Council and Standing Committees were declared duly elected as follows:—

#### THE COUNCIL.

*President.*—Ernest George.

*Vice-Presidents.*—James Sivewright Gibson; Edwin Thomas Hall; John William Simpson; Leonard Stokes.

*Hon. Secretary.*—Alexander Graham, F.S.A.

*Members of Council.*—Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A.; John James Burnet, A.R.S.A. (Glasgow); Alfred William Stephens Cross, M.A.Cantab.; Edward Guy Dawber; William Flockhart; John Alfred Gotch, F.S.A. (Kettering); Edward Augustus Gruning (Past Vice-President); Henry Thomas Hare (Past Vice-President); George Hubbard, F.S.A.; Henry Vaughan Lanchester; Edwin Landseer Lutyens; Mervyn Edmund Macartney, F.S.A.; Ernest Newton; William Alfred Pite; Andrew Noble Prentice; Halsey Ralph Ricardo; John Slater, B.A.Lond.; Paul Waterhouse M.A.Oxon.

*Associate Members of Council.*—Henry Arthur Crouch; William Curtis Green; Sidney Kyffin Greenlake; Stanley Hinge Hamp.

*Representatives of Allied Societies.*—Frederick Batchelor, A.R.H.A. (Royal Institute of the Architects of Ireland); George Bell (Glasgow Institute of Architects); Hippolyte Jean Blanc, R.S.A. (Edinburgh Architectural Association); George Thomas Brown (Northern Architectural Association); James Crocker (Devon and Exeter Architectural Society); Thomas Edgar Eccles (Liverpool Architectural Society); Mowbray Aston Green (President of Bristol Society of Architects); Arthur Ernest Heazell (Nottingham Architectural Society); Paul Ogden (Manchester Society of Architects).

*Representative of the Architectural Association (London).*—Walter Cave.

#### STANDING COMMITTEES.

*Art.*—*Fellows:* Robert Shekleton Balfour; Edward Guy Dawber; William Flockhart; William Adam Forsyth; James Sivewright Gibson; Henry Thomas Hare; Professor William Richard Lethaby; Edward Schroder Prior, M.A.Cantab., F.S.A.; Edwin Alfred Rickards; John William Simpson.—*Associates:* John Anderson; Arthur Thomas Bolton; Thomas Davison; Sidney Kyffin Greenlake; Walter John Tapper; Edgar Wood.

*Literature.*—*Fellows:* Alfred William Stephens Cross, M.A.Cantab.; John Alfred Gotch, F.S.A.; George Hubbard, F.S.A.; Edward Schroder Prior, M.A.Cantab., F.S.A.; Halsey Ralph Ricardo; Professor Frederick Moore Simpson; Professor Ravenscroft Elsey Smith; Richard Phend Spiers, F.S.A.; Hugh Stannus, A.R.C.A.; Paul Waterhouse, M.A.Oxon.—*Associates:* Frederick Chatterton; William Curtis Green; Herbert Passmore; Arthur James Stratton; William Henry Ward, M.A.Cantab.; Percy Leslie Waterhouse, M.A.Cantab.

*Practice.*—*Fellows:* William Henry Atkin Berry; Max Clarke; Alfred William Stephens Cross, M.A.Cantab.; George Hubbard, F.S.A.; John Murray; Sydney Perks, F.S.A.; Alfred Saxon Snell; Henry Tanner, jun.; William Henry White; William Woodward.—*Associates:* Edward Greenop; Edwin Richard Hewitt; Herbert Hardwicke Langston; Horatio Porter, M.A.Cantab.; Thomas Edward Pryce; Augustus William Tanner.

*Science.*—*Fellows:* Harry Percy Adams; Max Clarke; Bernard Dicksee; William Dunn; Matt Garbutt; Francis Hooper; Charles Stanley Peach; Sydney Perks, F.S.A.; Herbert Duncan Seales-Wood; Alfred Saxon Snell.—*Associates.*—Henry William Burrows, F.G.S.; Alan Edward Munby, M.A.Cantab.; Francis Winton Newnan; Digby Lewis Solomon, B.Sc.Lond.; Harry Inigo Triggs; Ernest William Malpas Wonnacott.

The Hon. Auditors are *Messrs.* Henry Tanner, jun. [F.], and Arthur William Sheppard [A.].

The Scrutineers of the elections were Messrs. Herbert Read (Chairman), H. Percy Adams, George Bland, Arthur Blomfield, Detmar Blow, William Grellier, Leonard Martin, H. A. Satchell, Arthur F. Usher, Herbert Wigglesworth, *Fellows*; and J. Herbert Delfrage, William H. Burt, Guy Church, C. Barry Cleveland, A. Rowland Conder, H. S. East, M. Stanner Hack, J. Stanley Heath, J. MacLaren Ross, Henry A. Saul, Herbert Shepherd, J. Myrtle Smith, *Associates*. Eight hundred voting-papers were returned, and the counting lasted from 10.30 to 6.30 on Friday the 29th ult.

#### The Ballot for Fellowship.

The Scrutineers appointed to examine the voting-papers and count the votes recorded for the candidates for Fellowship in the recent election met at the Institute on the 29th ult. Their report, which was delivered under seal and communicated to the Business Meeting last Monday, states that 596 voting-papers were handed to them, and that four of these were found to be invalid. The names of the candidates elected will be found set out in the Minutes of the meeting, page 484. The Scrutineers were Messrs. F. R. Farrow [F.], Chas. B. Bone [F.], C. H. Brodie [F.], Osborn C. Hills [F.], Thomas A. Pole [A.], Harold A. Woodington [A.], Frederick Chatterton [A.], A. Rowland Conder [A.], Henry James Wise [A.], H. S. East [A.], C. E. Hutchinson [A.], J. Douglas Scott [A.].

#### Architects and the Territorial Army.

The attention of the Council of the Royal Institute has been called to the desirability of promoting concerted action on the part of the architectural profession in the interests of the new Territorial Forces.

The success of the scheme recently sanctioned by Parliament for the training of a citizen army for national defence will depend in a large measure upon the support it receives from employers throughout the country. The voluntary expenditure of time and energy by a part of the community in the interests of the whole is in itself a sufficient burden without the added disadvantages of loss of wages and injury to material interests.

The Council venture to express the hope that the members of the architectural profession generally will combine to facilitate the service of assistants and others in the new Force. It is suggested that all who enlist in the Territorial Army should be granted one week's leave for the annual training, with full pay, in addition to any holiday which may be customary, the remainder of the period of training being taken out of the holiday.

If some such arrangement were general it would facilitate the provision of temporary assistance during the period of training. Facilities for attending drills and for rifle practice during the course of the year are also desirable in the interests of the Force and of the country generally.

#### L.C.C. School of Building.

The London County Council have adopted the following recommendations of their Education Committee:—

(a) That a day technical school be established at the London County Council School of Building for boys intending to enter the building trade or professions in connection therewith; that pupils be required to be between the ages of thirteen and fifteen on 31st July of the year in which they are admitted to the school, and to have passed Standard VI. or its equivalent; and that the course of instruction do cover a period of three years, and do include the technical or professional training of the pupils and the improvement of their general education.

(b) That the following fees be charged for admission of pupils to the London County Council School of Building day technical school for boys:—First year, 10s. a term, £1. 10s. a year; second and third years, artisan course, 10s. a term, £1. 10s. a year; professional course, £1. 10s. a term, £4. 10s. a year; and that where considered desirable by the Education Committee pupils whose parents are in receipt of less than £160 a year be admitted free.

(c) That the undermentioned teachers be employed in connection with the day technical school to be established at the London County Council School of Building (Brixton) for boys intending to enter the building or allied trades, at the rates of pay respectively specified:—Whole-time assistant to principal, £250 a year, rising by six annual increments of £15 and one of £10 to £350 a year; whole-time assistant teacher of general subjects, £150 a year, rising by annual increments of £10

to £250 a year; whole-time teacher of art subjects, £150 a year, rising by annual increments of £10 to £200 a year; whole-time teacher of carpentry, £150 a year, rising by annual increments of £10 to £200 a year; part-time teacher of brickwork, £85 a year; part-time teacher of masonry, £85 a year.

#### Crosby Hall.

The London County Council have adopted the following recommendation of the Local Government Committee:—"That the Council do consent to accept the ownership of the fabric of Crosby Hall, provided that the building be re-erected on land adjoining More House, Chelsea, the freehold of which will be presented to the Council, that the interests of the Council be safeguarded to its satisfaction, that no charge fall upon the county rate in respect of the acquisition, re-erection, and maintenance of the building, and that arrangements be made for public access thereto; and that it be referred to the Local Government, Records, and Museums Committee to prepare and submit to the Council at an early date a complete scheme."

#### The late Julien Guadet.

At the General Meeting last Monday the Hon. Secretary, Mr. Alexander Graham, formally announced to the Institute the decease of M. Julien Guadet, the distinguished Professor of the École des Beaux-Arts, Paris, whose election as Hon. Corresponding Member R.I.B.A. was to have taken place that evening.

M. Guadet, who was born in 1834, was descended from the Girondist deputy of that name who perished on the scaffold in 1794. He entered the École des Beaux-Arts in 1853, and was one of its most brilliant students, carrying off the Medals for Mathematics, Perspective, and Construction, the Grande Médaille d'Émulation, and finally, in 1864, the Grand Prix de Rome. In 1871 he was appointed Professor at the École des Beaux-Arts, and succeeded M. Constant Dufoux in the direction of an atelier which, during his twenty-three years as "Patron," turned out pupil after pupil to achieve subsequent distinction among French architects. In 1894, at the urgent request of the Council of the École, he reluctantly gave up his atelier to take over the Professorship of Theory of Architecture, then vacant by the death of Edmond Guillaume. He held the Professorship with rare distinction and devotion until his death. He was a strenuous worker, and found time amid his exacting professorial duties to produce the five volumes of his great work on the *Elements and Theory of Architecture*, now universally recognised as a standard authority and text-book. His principal architectural works were the new Hôtel des Postes in the Rue du Louvre, Paris, and the reconstruction of the Théâtre Français after the fire. M. Guadet

was a member of the Conseil Supérieur of the École des Beaux-Arts, Member of the Conseil Supérieur of the Department of Public Instruction, Inspector-General of Civil Buildings and National Palaces, "Officier" in the Legion of Honour, and at the time of his death was President of the Central Society of French Architects.

On the motion of the Hon. Secretary the Meeting resolved that the regrets of the Institute for the loss it had sustained by the death of M. Guadet be entered on the Minutes of the Meeting, and that a letter expressing the sympathy and condolence of members be addressed to the widow and family of their late distinguished *confrère*.

#### The Church of Saint-Séverin, Paris.

New York, U.S.A., 23rd May 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I have read a report in an American newspaper that the interesting church of Saint-Séverin, in an old quarter of Paris, is about to be demolished in the course of municipal improvements.

Surely so regrettable a project must meet with great opposition from the many antiquarian societies of Paris. It is contrary to the spirit of that Government which has lately shown its regard for historical monuments, and provided for their preservation. I believe there have been cases abroad which have been deemed important enough for a protest from the R.I.B.A. and other English societies, notably the case of the old Ponte Vecchia, Florence, some time ago; and I would suggest that this church affords another.

If it be for a new street, or widening an old one, the building surely might be left upon an island, as in the case of our own Strand churches, and the road carried round half on each side, to the advantage of its appearance. It would be interesting if the Comte de Lasteyrie or some other Corresponding Member of the Institute would procure a plan of the scheme that necessitates such an idea, together with some account of the protests made, for publication in the Journal.

The loss of this church, or that of its older neighbour, St. Julian le Pauvre, would be irreparable. The building is well illustrated in Lenoir's great work *Statistique Monumentale de Paris*, and in Hessel's *Le vieux Paris*. Its west tower and three adjoining bays are of the fourteenth century, and the eastern bays and chevet Flamboyant. Its height, and seven-span width, vaulting, elaborate gables over the side chapels on the flank elevation, its extended gargoyles, etc., make it one of the best-known and most interesting churches for study.

A record, and especially some notice of the absolute necessity for destruction, would be valuable, if it be in reality doomed beyond appeal.—I am, Sir, yours faithfully,

EDWARD W. HUDSON [A.].

Mr. Hudson encloses a cutting from the *New York Times* of a few weeks back consisting of a note from its Paris correspondent lamenting the demolition which threatens some of the few remaining historic relics of old Paris. "For some years," he says, "the hand of the renovator has been stayed at that most ancient island in the Seine, the Ile de la Cité, on which looms Notre-Dame, facing the Hôtel Dieu, the old barracks, and the Palais de Justice, and grovels the Morgue, that fatal building of gruesome mysteries. Now, however, in order to prolong the Rue Saint-Jacques, the old Hôtel Dieu is being taken down, together with the Church of Saint-Séverin, the little mediæval houses in the Rue du Petit-Pont, and, worst of all, that famous Gothic tower near Notre-Dame in the Rue Chanoinesse, with its spiral staircase known as the Tour du Roi Dagobert. Thus is disappearing, almost at one fell swoop, the Quartier Garinade, formerly one of the curiosities of the capital, both for its historical associations and the unbounded artistry of certain of its buildings, among which, of course, first stands the beautiful Saint-Séverin, which dates from 1060."

#### THE VIII<sup>TH</sup> INTERNATIONAL CONGRESS OF ARCHITECTS, VIENNA.

THE Eighth International Congress must be counted among the most successful of its kind. The attendance of members—between thirteen and fourteen hundred—was unusually large; the Papers touched international points of extreme importance, and the social arrangements were elaborate and hospitable. When a mass of people such as constitute an international congress, whether it be of architects or of men of any other art or profession, are brought together under conditions which as regards language and customs are unfamiliar to many, it is difficult, perhaps impossible, to devise an organisation which will give complete satisfaction to everybody. But the Executive Committee at Vienna, under the presidency of Herr Otto Wagner, with Baron Krauss as Secretary, not only arranged a programme of unusual interest and amplitude, but on the whole carried it through with exactitude and thoroughness. The final and abiding impression of the Congress is that Austrian architects hold not only a high position in the estimation of the public, but also in the estimation of the Sovereign, the Government, and the city.

The opening meeting was held in the splendid chamber of the Houses of Parliament, a banquet was given by the Lord Mayor and Corporation in the Town Hall, and in the name and at the invitation of the Emperor a reception was given at the Palace, where in the presence of the diplomatic body the leading representatives of each country—Mr. Leonard Stokes and Mr. J. W. Simpson acting for England—were presented by Herr Otto

Wagner to the Archduke Ferdinand. Apart from these special distinctions the Society of Artists at Vienna gave a reception in their galleries, and the Austrian Society of Engineers and Architects an evening *fête* on the heights of the Kahlenberg. The doors of the Opera and Burg Theatre were thrown open to a limited number of guests on two evenings; and admission was granted to several private palaces, both in Vienna and in the country, where the members were in most cases received by the noble proprietor, who, after pointing out objects of interest, hospitably entertained his visitors. Special attention was also paid to the entertainment of the lady members of the Congress (of whom there were a large number), the most delightful and picturesque being the children's *fête* to celebrate the Kaiser's Jubilee at Schönbrunn Palace. Finally there was the Farewell Banquet on the Saturday evening at the Hôtel Continental (not so well attended as the similar banquet in London), at which Mr. Leonard Stokes, speaking on behalf of the English members, gave expression to the general sense of pleasure and instruction which had been derived from the events of the past week.

A feature of the Congress was the International Architectural Exhibition in the Gartenbau-Gesellschaft, a commodious building divided into several galleries, each country being allotted its own Saal. England was represented almost entirely by photographs of domestic work. The accommodation allowed for the English exhibit was, I think, of about the same cubic space as that allotted to France. In this connection it may, however, be as well to remember that at the last Congress the large rooms of the Grafton Galleries were devoted solely to English work, and that a larger exhibition at Vienna would have necessarily included much of the work exhibited on that occasion. In addition to the architectural drawings, the furniture and fittings of a room in a Sanatorium built by Baron Krass, and rooms in other buildings by Professor Josef Hoffmann—probably the most advanced exponent of *l'art nouveau*—were reproduced. The Exhibition, which remains open for a month, also contains specimens of Austrian arts and crafts and decorative sculpture.

The subjects of the Papers were not so numerous as at the last Congress. Professor Mayreder's "Comparison of the Berlin, London, Paris, Rome and Vienna Building Regulations" led him to the conclusion that London was behindhand with regard to town planning. Professor Dolezal advocated the photometric survey of architectural monuments, stating that in Germany this method had been found of the greatest use. M. Harmand, in supporting Dr. Eros's Paper on the copyright of the architect, expressed surprise that English architects appeared to be ignorant of the fact that certain old English laws protected the architect's work. Among other subjects discussed, referred from the last Congress,

were the Regulation of the Cultivation of Art by the State (to use the phrasing of the official documents), the Conservation of Public Architectural Monuments, the Regulation of Architectural Competitions and "Concrete Iron Buildings." With regard to the Regulation of the Cultivation of Art by the State the Comité Permanent had prepared the following Resolution:—

"That every Government be urgently requested to establish a Secretary of State, or at least a suitable Department, for the Fine Arts; that prominent artists should be associated with these departments, and that, as architecture must be regarded as the leading fine art, architects should be in the majority; that such Secretaries or Departments should undertake work for the promotion and care of the fine arts in all their branches."

Herr Bodo Ebhardt, who has recently presented to the Institute Library his works on the ancient castles of Germany, read a Paper on the Building of Towns in Germany in the Middle Ages and its importance for the present.

But, interesting as were the entertainments provided by the Executive Committee, and interesting and instructive as were the Papers, certainly not the least interesting and least instructive feature of the Congress was the great city in which it was held. From a modern point of view probably no capital possesses greater architectural interest than Vienna. There we have the past—a Gothic past—followed by the period of the Renaissance, and later by the baroque style; then, after an intermediate period in which French influences seem to prevail, we have a strong classical note; and, finally, we have *l'art nouveau*! Together with these phases of architecture we find schemes of garden planning—take the grounds of the Belvedere and Schwarzenburg Palaces, for instance—or later work in the Volksgarten and Stadtpark, all of the greatest interest and beauty. During the last fifty years the obliteration of the fortifications and ramparts which surrounded the old city prepared the way for one of the noblest schemes of town planning of modern times. The Emperor, the sixtieth anniversary of whose reign is being celebrated this month, supported these schemes with all his influence and energy, as well as financially, calling to his aid the ablest architects of his time and country. He has lived to see the practical completion of his plans, which are alike a monument to him and to those who have helped him to carry them into effect. The Viennese are proud of their splendid city, and the recent Congress sufficiently indicated that they not only delight to honour the men to whose artistic taste and capacity they owe so much, but also their *confrères* from other countries.

RUDOLF DIRCKS.

## THE LATE J. J. STEVENSON, F.S.A.

JOHN JAMES STEVENSON was born in Glasgow in 1831, educated first at the grammar school in that city, and afterwards at Glasgow University, where he took the degree of M.A. With the view of entering the Scotch Church he next studied in the Theological College at Edinburgh and afterwards for one summer at Tübingen. But architecture was always his desire—confirmed and strengthened by a visit to Italy which took place about that time. He therefore became a pupil of David Bryce, R.S.A., of Edinburgh in 1856, and two years afterwards got further training in London in the office of Sir Gilbert Scott. Here he had as contemporaries Crossland, Bodley, Edgar, Bignell, Garner, Medland, R. J. Johnson, Micklethwaite, E. R. Robson, T. G. Jackson, R.A., and Gilbert Scott the younger. On leaving Scott's he went for a sketching tour in France with his friend Johnson, and after this settled down to practice, taking up a partnership with Mr. Campbell Douglas in Glasgow which lasted nine years.

He came to London in 1869, joined Mr. E. R. Robson, who had just been appointed architect to the then newly formed School Board, and was responsible for the architecture of some of the earliest of the London Board schools, selecting and adapting for these a type of brick architecture which afterwards became known as "Queen Anne." This style has proved so suitable for its purpose that the designers of the public elementary schools of to-day have not found it necessary to make much change (except perhaps in the direction of dropping the "Queen Anne" details) in the treatment of brickwork which he then introduced.

It was at this period that he built for himself "The Red House," Bayswater Hill, a well-known and very early example of this style of brick architecture. It may be interesting to state that the interior and decoration of his library were designed by his friend Bodley, Stevenson holding the view that—as he was wont to express it—"a man really cannot always be sitting and looking at his own work."

For many years his home on Bayswater Hill was a centre of literary and artistic life. Among those who frequently met there we may mention at random Isaac Taylor, John Maclean, George MacDonald, Canon Ainger, Pettie, Muzwhirter, Sir W. Q. Orchardson, Napier Henry, Sir Alexander Moncrieff, Professor Middleton, the Rev. W. J. Loftie, Professor Robertson Smith, and William Morris, his friendship with the last named being the means by which he became intimately associated with the Society for the Protection of Ancient Buildings. He was a member of the original Committee of that Society, and never ceased to take an active interest in its work: for he held strong views on matters connected

with old buildings, and detested all attempts to tamper with their history under the guise of "restoration." A long list of works stands to his credit, some of the more important being Churches at Monzie (1880), Crieff (1881), Perth (1883), Fairlie—enlargement (1894), Stirling and Glasgow (1900). Of country houses, &c., we may name Westoe, South Shields (1868), Munstead, Godalming (1878), Churchfield, Falmouth (1889), School at Fairlie (1880), Offices for the Tyne Commissioners, Newcastle (1882), Outlands Mere, Weybridge (1893), tutors' and other private houses at Oxford and Cambridge, and several houses in the neighbourhood of Camberley. Amongst his London buildings were houses in Prince's Gate and Lowther Gardens (1878), and a house and studio in Melbury Road for Colin Hunter (1878); houses in Kensington Court (1881), group of seventeen houses in Buckingham Palace Road (1892), group of five houses in South Street (1897), with others in Hampstead, Belgravia, and Kensington Palace Gardens. Also shipping offices in Fenchurch Avenue and the Board schools of which mention has been made.

His University work comprises repairs at St. John's (1889) and Oriel College (1899), Oxford, a block of sets and lecture-rooms at Christ's College, Cambridge (1886), with additions in 1906; the Morphological Laboratory for the University of Oxford (1899), and the University Chemical Laboratory at Cambridge (1889), with additions now being built. He also made designs for additions to Sidney Sussex, Trinity, and Clare Colleges, and for the Sedgwick Geological Museum at Cambridge. He was the first architect to design the interior decoration of the principal rooms in a large steamship, and did this in several instances for the Orient Company, notably in the case of the ships *Orient*, *Ormuz*, *Austral*, *Ophir*, *Omrah*, and *Orontes*.

Stevenson published in 1880 a book entitled *House Architecture*, which has had a great vogue, especially amongst those of the younger generation. He was the author of many essays and papers read before the professional societies, especially one on a proposed restoration of the mausoleum at Halicarnassos—a subject in which he was keenly interested, and to which towards the close of his life he gave considerable time and thought. The last letter he drafted was one to Professor Lethaby, asking him to discuss the arguments advanced on the Professor's recent pamphlet on that subject.

Of J. J. Stevenson's personal character the writers can speak with no uncertain voice. His office was familiarly known among Scottish draughtsmen as "the stepping-stone to London." His kindness to his assistants and his consideration for their welfare were quite extraordinary, and his extensive library was always at their disposal. Of the many men who passed through his office

in the course of years none are likely ever to forget him nor the help they received at his hands. Modest and unassuming, kindly and generous, he leaves a gap which will not soon be filled.

F. W. THORP [F.].

HARRY REDFERN [F.].

\* In 1896 Mr. Stevenson took into partnership Mr. Harry Redfern, and after that date all his work was carried out in conjunction with his junior partner.

## LEGAL.

### Architects' Fees.

HUNT U. ACTON URBAN DISTRICT COUNCIL.

This was an action brought by Mr. William George Hunt to recover £800 for professional services rendered to the defendants. The defendants denied liability, and further pleaded that they had already paid to the plaintiff the sum of £2,427 in full satisfaction of his claims.

The case came on in the King's Bench Division before Mr. Justice Lawrence, sitting by consent without a jury, and lasted three days, May 19-21. Mr. Horace Ivory, K.C., and Mr. Frank Newbolt, appeared for the plaintiff; Mr. Macmorrان, K.C., and Mr. E. J. Naldrett for the defendants. The case is fully reported in the professional press. The following report is from *The Times* of the 22nd May:—

The short facts of the case were as follows. The plaintiff, in 1903, was invited to submit plans for the erection of new municipal buildings by the defendants. The conditions of tender, which were under seal, provided that the architect should be paid for his services in accordance with the Scale of Charges issued by the Royal Institute of British Architects. The plaintiff accepted the conditions and submitted plans which were approved by the defendants. The proposed plans were in respect of buildings to cost £85,000. The Local Government Board objected to the cost, and refused to allow the Council to borrow the necessary money. The Council then proposed to the plaintiff that the plans should be so altered as to make them suitable for buildings which were to cost only £35,000. The plaintiff altered the plans accordingly. The plaintiff's case was that he was entitled to be paid, in addition to the fees already paid him for the original design, 2½ per cent. upon £35,000, the cost of the proposed new building.

Mr. Macmorrان, for the defendants, submitted that the sealing of the conditions amounted to nothing, and the Council did not bind themselves to employ the successful competitor. There was no contract to employ plaintiff upon the conditions. A surcharge was made against the Council for paying the plaintiff upon account, because there was no sealed contract, which showed that there was no binding contract. In September 1906 the plaintiff agreed to accept a sum in full discharge for all services rendered by him. The plans were practically new plans. There was a separate scheme with regard to the £35,000. There never was a sealed contract in respect of that separate scheme. The plaintiff never was appointed architect to the Council. He was not an officer of the Council in any sense at all. There was no evidence of any such appointment.

Mr. Horace Ivory argued that the conditions amounted to a contract to employ the successful competitor as architect, or to appoint him as such. In the alternative they amounted to an appointment of the six selected competitors to prepare designs, on terms that they should be paid £50 in any event, and the selected architect was to be paid, in addition, a sum according to the Scale. From

the date plaintiff's design was accepted he was treated as if appointed. His appointment was continuous right up to April 1907. The Minutes of the Council of February 1906 showed that the scheme was continuous. If the sealed contract applied to the original scheme, then it applied to the revised scheme with additions and alterations (*Williams v. Barmouth Urban District Council*, 77 L.T. 383). The plaintiff was an officer of the Council appointed under section 189 of the Local Government Act, 1894. There was nothing in the Act to say that the appointment must be under seal. The plaintiff was throughout treated as if he had been appointed. The evidence of plaintiff and his witnesses was that the charge of 2½ per cent. was based upon the principle that the alterations were of such a character that they involved doing all the work over again, and therefore he ought to be so remunerated in proportion to the time occupied on the drawings.

Mr. Justice Lawrence, in giving judgment, said the question turned upon whether the scheme was new, or whether it was a modification of the original scheme. In his judgment the £85,000 scheme was not approved by the Local Government Board because a great deal too much money was going to be spent. Then the Council decided to spend £35,000, and the architect was asked to prepare his plans with regard to that, and the question was whether he was acting under a new scheme, or was it part of the original? In his (the learned Judge's) judgment it was a modification of the original plans, forced upon the plaintiff by the Council themselves. The contract for the original scheme being under seal, the plaintiff was entitled to recover. It was said that the auditor of the Local Government Board had surcharged the amount paid to the plaintiff because the contract was not under seal. That might be, but it did not alter the matter. The plaintiff's claim came under the principle laid down in *Williams v. Barmouth Urban District Council* (*supra*), that all was done by the plaintiff under a power conferred on him as architect in pursuance of a contract which was under seal.

The learned Judge entered judgment for the plaintiff for £800 with costs. Stay of execution was granted upon payment being made of £400 into Court within ten days.

## MINUTES. XV.

At the Fifteenth General Meeting (Business) of the Session 1907-08, held Monday, 1st June 1908, at 8 p.m.—Present: Mr. Edwin T. Holl, *Vice-President*, in the Chair, 27 Fellows (including nine members of the Council), and 32 Associates (including one member of the Council)—the Minutes of the Meeting held 16th May 1908 (p. 396) were taken as read and signed as correct.

The following Fellow attending for the first time since his election was formally admitted by the Chairman—viz. Ewen Harper (Birmingham).

The Hon. Secretary having referred to recent additions to the Library, a vote of thanks was passed to the various donors by acclamation.

The Secretary announced the results of the polling for the election of the Council and Standing Committees for the official year 1908-9, as reported by the Scrutineers, viz.:—

PRESIDENT.—Ernest George [*unopposed*].

VICE-PRESIDENTS.—James S. Gibson, Edwin T. Hall, John W. Simpson, Leonard Stokes [*unopposed*].

HONORARY SECRETARY.—Alexander Graham [*unopposed*].

MEMBERS OF COUNCIL (18).

Elected: H. T. Hare, 592 votes; E. G. Dawber, 582; R. Blomfield, A.R.A., 554; E. Newton, 524; M. E.

Macartney, 510; H. V. Lanchester, 493; A. N. Prentice, 479; J. J. Burnet, 472; P. Waterhouse, 463; J. A. Gotch, 456; J. Slater, 443; H. R. Ricardo, 430; A. W. S. Cross, 430; E. L. Lutyens, 426; E. A. Gruning, 419; W. Flockhart, 411; W. A. Pite, 404; G. Hubbard, 393.

*Not elected:* G. Horsley, 381; G. H. F. Prynn, 361; C. E. Mallow, 358; S. P. Pick, 324; W. Woodward, 320; T. Moore, 305; W. Dunn, 279; M. B. Adams, 272; E. Wimperia, 252; W. H. A. Berry, 233; W. A. Forsyth, 230; H. P. Burke Downing, 210; A. R. Jemmett, 143; E. T. Kitchin, 123; W. G. Wilson, 110.

#### ASSOCIATE MEMBERS OF COUNCIL (4).

*Elected:* Sidney Kyffin Greenslade, 431 votes; William Curtis Green, 408; Henry Arthur Crouch, 352; Stanley Hinge Hamp, 332.

*Not elected:* Septimus Warwick, 249 votes; Walter John Tapper, 246; Clyde Francis Young, 237; Herbert Winkler Will, 221; Kensington Gamnell, 113; Frederick Chatterton, 112.

#### REPRESENTATIVES OF ALLIED SOCIETIES (9).

*Elected:* H. J. Blanc (Edinburgh), 578 votes; T. E. Eccles (Liverpool), 578; Paul Ogden (Manchester), 569; Fredk. Batchelor (Ireland), 562; M. A. Green (Bristol), 531; A. E. Heazell (Nottingham), 490; Geo. Bell (Glasgow), 472; G. T. Brown (Northern), 468; Jas. Crocker (Devon and Exeter), 466.

*Not elected:* P. Robinson (Leeds and Yorks), 459; W. C. Fenton (Sheffield), 441; E. H. Pawckner (Cardiff), 349; J. D. Mills (Dundee), 235.

#### HON. AUDITORS.

Henry Tanner, jun., *Fellow*; Arthur William Sheppard, *Associate* [unopposed].

#### ART STANDING COMMITTEE.

*Fellows* (10).—*Elected:* E. Guy Dawber, 647 votes; J. S. Gibson, 625; H. T. Hare, 617; Prof. W. R. Lethaby, 604; J. W. Simpson, 594; W. Flockhart, 580; E. S. Prior, 576; H. S. Balfour, 553; W. A. Forsyth, 551; E. A. Rickards, 543.

*Not elected:* Paul Waterhouse, 530; S. S. Reay, 232. *Associates* (6).—*Elected:* S. E. Greenslade, 583; T. Davison, 508; A. T. Bolton, 494; J. Anderson, 455; W. J. Tapper, 444; E. Wood, 410.

*Not elected:* S. Warwick, 416; S. H. Hamp, 408.

#### LITERATURE STANDING COMMITTEE.

*Fellows* (10).—*Elected:* R. P. Spiers, 629 votes; F. M. Sitappon, 568; J. A. Gotch, 567; E. S. Prior, 540; H. Stannus, 537; H. Ricardo, 532; P. Waterhouse, 516; A. W. S. Cross, 515; G. Hubbard, 473; R. E. Smith, 472.

*Not elected:* G. H. F. Prynn, 443; C. H. Townsend, 423; H. C. Corlette, 389; H. A. Satchell, 210.

*Associates* (6).—*Elected:* W. H. Ward, 593; W. Curtis Green, 588; P. L. Waterhouse, 562; H. Passmore, 485; A. J. Stratton, 479; P. Chatterton, 374.

*Not elected:* F. Ishman, 334; C. E. Sayer, 328.

#### PRACTICE STANDING COMMITTEE.

*Fellows* (10).—*Elected:* A. S. Snell, 453; A. W. S. Cross, 432; G. Hubbard, 431; W. Woodward, 411; Max Clarke, 391; Sydney Perks, 371; W. H. A. Berry, 370; H. Tanner, jun., 368; John Murray, 333; W. H. White, 333.

*Not elected:* T. H. Watson, 328; W. E. Riley, 300; J. D. Mathews, 284; E. Flint, 264; R. S. Ayling, 237; H. A. Satchell, 233; W. C. Waymouth, 229; G. E. Nield, 205; W. G. Wilson, 195; H. P. Monckton, 159.

*Associates* (6).—*Elected:* H. Porter, 470; T. E. Pryce, 403; E. R. Hewitt, 399; A. W. Tanner, 375; E. Greenop, 364; H. H. Langston, 342.

*Not elected:* E. G. Page, 305; R. S. Wilkinson, 301; P. Chatterton, 258; E. Gamnell, 202; E. A. Jollyo, 186.

#### SCIENCE STANDING COMMITTEE.

*Fellows* (10).—*Elected:* H. D. Searles Wood, 579 votes; H. P. Adams, 537; Max Clarke, 529; A. S. Snell, 494; S. Perks, 490; M. Garbutt, 484; W. Dunn, 479; C. S. Peach, 455; F. Hooper, 453; B. Dicksee, 432.

*Not elected:* T. W. Aldwinckle, 403; Lewis Solomon, 380; W. E. V. Crompton, 356; A. W. Moore, 325.

*Associates* (6).—*Elected:* A. E. Munby, 376 votes; H. W. Burrows, 364; D. L. Solomon, 361; H. L. Triggs, 355; W. Wonnacott, 344; F. W. Newman, 318.

*Not elected:* L. Angell, 277; E. A. Young, 269; E. R. Hewitt, 226; E. J. Bennett, 197; C. A. Daubney, 193; W. Jacques, 143; C. L. Gill, 126; J. H. Markham, 118; F. R. Hiorns, 110.

The Chairman declared the Officers, Council, and Committees duly elected in accordance with the foregoing Report.

The Secretary read the Scrutineers' Report announcing the election of the following candidates:—

#### AS FELLOWS (6).

JOHN BROOKE [A.I.].

ALFRED MORRIS BUTLER [A.I.].

FREDERICK ERNEST PEARCE EDWARDS [A.I.].

FRANK MINSHULL BIGOOD [A.I.].

GEORGE McLEAN FORD [A.I.].

ERNEST AUGUSTUS RUNTZ [Qualified for Assoc. 1889].

The following candidates were elected by show of hands under By-law 9, viz.:—

#### AS ASSOCIATES (3).

JOHN JACKSON BECK [Probationer 1901, Student 1904, Qualified 1907], Toronto.

SAMUEL BUTTERY BIRDS [R.I.B.A. Colonial Examination 1907], Toronto.

HARRY JOHN VENNING [Special Examination 1907].

#### AS HON. ASSOCIATE.

GERALD EDWARD MOIRA, Professor of Painting at the Royal College of Art, South Kensington.

The Hon. Secretary having announced the decease of M. Julien Guadet, the eminent Professor at the École des Beaux-Arts, Paris, whose election as Hon. Corresponding Member was to have taken place that evening, the Meeting resolved that the regrets of the Institute for the loss it had sustained by the death of M. Guadet be entered on the Minutes of the Meeting, and that a letter expressing the sympathy and condolence of members be addressed to the widow and family of their late distinguished confrère.

On the motion of the Chairman, a vote of thanks was passed by acclamation to the Scrutineers for their services in connection with the elections which had been announced that evening.

The Chairman, before closing the proceedings, asked the support of members for the Concert to be given on the 3rd June, which had been organised by the T-Square Club on behalf of the funds of the Architects' Benevolent Society; and having referred to the Annual Dinner to be held on the 23rd June, expressed the hope that a large gathering of members would be present to do honour to the distinguished guests expected on the occasion.

The proceedings terminated at 8.45 p.m.



TRENTINAM HALL.

*Photo. Harrison & Son, Newcastle.*

## ENGLISH AND ITALIAN GARDEN ARCHITECTURE.

By THOMAS H. MAWSON [H.A.].

Read before the Leeds and Yorkshire Architectural Society, 13th February 1908.

IF this discourse or lecture were merely a comparison of two schools of garden architecture, the proverb "Comparisons are odious" would be a just criticism upon it. But I judge that the odium comes in when the merit or demerit of anything or anyone in particular is pitted even for even against another, without taking into account the premisses or causes that have led up to and made each what it is. I must, however, necessarily examine each side by side, but not in such a way that one would disparage the other or militate against it. Let me say at the outset, frankly and unreservedly, that for the most part all the well-known existing examples of Italian garden architecture are admirably suited to that country and climate, as also are the typical English examples to our own.

All inquiries into a prevalent style of architecture, or even into some playful branch such as engages us at present, must be based or traced upon an outline, at least, of the racial origin of the people themselves, their customs, their history, their bent, and their proclivities; and lastly, and perhaps the most important, their religion. After a brief examination of these preliminaries, and a knowledge of the climate, we may temporarily transport ourselves into the atmosphere in which the people lived who have thus written one phase of their history monumentally. It is needful that we should sketch in these essentials. I admit that a too close study of a people's history does not conduce to a transport of elime and atmosphere; it makes us only captious and pedantic, which if it be a repetition in other words of what I have previously said, I say again that is not my present object.

There are those transcendental mortals who have always more or less the power to transport themselves poetically into other scenes and climes wherein their present interest or research is cast, and which, I suppose, is the highest attainment of all art; to lose the consciousness of the present, and to use the performers and performance as an "Open Sesame" to the undefinable intangible beyond; or perhaps a recall of the past, as when Patti sang in

Australian halls of "Home, sweet home," recalling, or rather transporting, to the scenes of childhood, mother and home, amidst tears, many a rough, hard miner, for years inured to the hardships and profanity of camp life, endured in his thirst for gold.

In contrast there are also those who, whatever the theme or the topic, sordidly cast every character and scene into one unvarying monotone of atmosphere. The pictures which pass before them are never varied, but they view every one alike, and everything and every object in the drab of what is, and what they are and have been surrounded with.

I can quite forgive anyone for presenting as design, as craft or workmanship, say as an architect, just what he knows and has compared and gone over time after time; because we all, deny it who can, in our work get into mannerism. There is not a single one of us, be he versatile, imaginative, or a genius, whose work could not be unmerringly picked out from almost one end of the country to the other; this is our individuality. I am not now, however, speaking of the slow, ponderous outer expression as set forth in the work of our hands; I am speaking first of the inner springs of

The mind, that ocean where each kind  
Doth straight its own resemblance find,

which is ever changing according to the quickly flashing electric energies of the senses, and from which is fed outer expression, as seen in our design and workmanship, and by the same sustained in any measure of freshness.

What a powerful note atmosphere is! Many a time have I seen pictures of the unique district wherein I live, which seemed perfect masterpieces of true detail and technically faultless, but yet you felt that the artist and his skill were all apparent; and perhaps at some rare moment another seemingly hasty record in colour with rough haphazard detail has caught the eye, and in carelessly hurrying past it a note of atmosphere has caught like a distant refrain. Ah! there you say is true Lakeland. The spell is over you, the mind fills in the detail out of its stores of inner consciousness; you want no more. Now we may study history, religion, and architecture until we are prodigies—epitomes—of knowledge, and we may miss even the spirit or the atmosphere of the art of our own land that lies nearest our doors, let alone that of a foreign land. In troubling about many things we may miss the one thing needful, and missing that, of what value is the other?

It may not be within the power of words to transport my audience to the shimmering blue translucent shores of the Mediterranean, of the Adriatic, the sea reflecting the blue Italian skies as seen through the rarefied atmosphere, inclining even to purple at times in intensity; nor to the vivacious contrast of gaiety, the kaleidoscope of colour that the moving crowds of Rome, Florence, and other cities present to our sombre-trained visions; nor to the fruitful vine slopes and plains of vineyards and olive groves which at every turn meet the traveller, the sedate cypresses in every stage of picturesque growth and decay (not the stiff pigmy specimens of our home gardens), combining with the classical stone pines, their trunks as clean and as delicately formed as columns. I say it may not be possible to weave round my audience that imaginative spell which overcomes every Northerner when he sets foot on the shores of Italy, but if he is possessed of even the rudiments of scholarly training and the mere basis of architectural insight—"the previous knowledge" which Lord Beaconsfield said "is essential to travel"—he finds his imagination running free in a certain lofty cast of the mind until he attains an extended breadth of view, which I may call a draught from the spring that fed the stream of inspiration of classical sublimity, and which no exotic classicism in less favoured lands and climes can produce.

For the time being, if I may make a criticism (not a comparison), to breathe this atmosphere alone makes our home attempts at classic seem hopeless and comfortless. Even

a Trentham, chaste and faultless without, rivalling many of the finer Italian examples, externally seems to need a recreated environment before it can even seem happy again.

The environment of these home attempts lacks the sunny clearness and the violent contrasts of white roads and houses dazzling against the dark cypresses and pines which impel us so "furiously to think" in that largeness and sublimity of thought to which this atmosphere is conducive. They lack also the infection of contact with a peopled sphere where huge schemes and large questions have been national, and not the exception as with us moderns, and where great questions have been settled with a sort of four-square orderliness and determination that has marked everything that bears the impress of the Rome which was, and is to-day, the dominating note of Italy. Whether it be Rome under the iron-handed rule of the Cæsars, or under the ecclesiastical supremacy of the cardinals in later days, there is an absence of anything cosmopolitan and a disdain of anything of less magnitude than that



WEST FRONT, TRENTHAM HALL.

Photo. Harrison & Son, Newcastle

which can be classified as great, impressive, and grand. The reverse is what we find in England and under English rule. I do not say that this is an unmixed blessing; there is a degenerate air of lightness and levity about almost everything in modern England which possibly comes of being born of multiplied generations of ease with security.

This consideration of the little may at times tend to a loss of the sense of proportion; yet it ought not to, when nature is more of a guide than man's handiwork. This hugeness and breadth, which is not freedom altogether, infects you in Italy before many hours have transpired in the country. Whether it is to be aimed at or not is not my wish to enquire, but it has been laid down as an axiom by J. A. Symonds in his work *Renaissance in Italy* that, "for really great art, ideas common to the nation are essential," and everyone is bound to confess that Italy has possessed, and does possess in her survival, a common national idealistic expression. Even in the present state of poverty there are being erected magnificent buildings, displaying the greatness and nobleness of thought which a glance at any ten or a

dozen types whom you meet on the piazzas convinces you is there, although now undisciplined : browed and swarthy men where lurk the gleams of the stiletto, with their shocks of black hair, white teeth, and dark flashing eyes—the offspring of those legions of stern world-bending Romans, scions of those Romans who

In Rome's quarrel  
Spared neither land, nor gold,  
Nor house, nor wife, nor limb, nor life  
In the brave days of old.

Even in their decadence, individual nobility in mien, build, and carriage, coupled with a certain inbred dexterity, is the rule and not the exception, as with us.

Under the less austere laws and the less clear skies of our island-kingdom a milder aspect prevails. It may or may not be decadent ; it certainly is not an atmosphere where the rigid legal cardinals of the Medici could luxuriate ; but if characteristic of the picturesque disarray of rough-and-tumble Britons it has a national art and a national ideal that are not stiff and stern with the dignity of some mysterious code of belief. To take an architectural simile or illustration : in describing any object or structure, if we say that it is decorated in the Italian style, it brings before our minds a certain regal stiffness which we may perhaps resent at home, yet welcome in Italy. This is exactly what to expect from a race of royal cardinals superimposed over the ancient Roman.

In contrast we Anglo-Saxons are identified on the Continent with a certain style of gardening where natural trees and grass predominate.

The German at Munich points proudly and knowingly to the spacious elms in the "Englischen Garten" luxuriating in free picturesque groupings between which are untraceable green glades down which the imagination wanders, and he points to those peeps under the congregated clean trunks as they dapple the grass with the shadows. There, he almost seems to say, I have beaten the Britisher on his own line. In all this, as I said at first, I am not quarrelling with the Italian because he is not English, much less with the Englishman because he is not Italian. Their palate is not trained the same as ours ; what is flavour to theirs is not exactly suited to ours. Every country that makes a national art must have a national train of ideas befitting. Picture our royal Windsor, with all its picturesque disorder of towers, battlements, projections, and turrets, transported to Italy, and you will see my meaning at once. The freedom of nature, not primitive wildness forsooth, is what we are characterised with abroad, and in this would I glory and would seek to be a true Britisher. Homeliness and simplicity are the keynote of what is English. As an American writer says, "With English architecture the chief interest centres about the simpler work, the homely quality of which directly appeals to one ; so the smaller and less pretentious English gardens seem in every way most perfect. There one finds no question of the rival claims of formal and informal schools, of Italian, French, or English styles, but merely a natural common-sense adaptation of means to an end, a direct meeting of needs. In the great Italian and French gardens one feels the presence of a complete and studied scheme, and also of a conscious effort for effect. As exponents of the art and science of landscape gardening, French and Italian examples are distinctly superior to the English ; but for mere lovable beauty, fitting the needs of true country lovers, nothing can approach the English garden."

"The thoroughness of the English garden is the very root of its charm. The garden, whether large or small, shows care in every part, and not only care, but generally the loving care of the man who is really fond of his garden as a whole, and of his plants individually. One cannot go through a garden without feeling that to them the garden is as intimate as the house."

This is the impression created upon a celebrated American expert. It is always best to try to see ourselves as others see us. Within the precincts of most of the characteristic examples of Italian gardens, the beholder becomes conscious of a feeling akin to awe amidst these magnificent domains of luxury, for ornament, and rest; you seem undecided whether to take off your hat or no, there seems to be somewhere the haunting presence of a scarlet-robed cardinal; whereas in a true English garden the impulse seems to be to run and jump. Personally I do not believe that the English will ever develop a great art; we have not the great ideas which J. A. Symonds says are "essential to the nation"; we shall ever be characterised by our note of homeliness and simplicity. Our American friends are trying hard to set up an exemplary classic centre at Washington; but I am afraid cousin Jonathan's



TRENTTHAM HALL.

*Photo. Harrison & Son, Worcester.*

stock brick will soon show through his cement veneer. Oxford in our own country seems to be the only city that is truly imbued with the classic atmosphere.

The reason why I have dealt at such length with these differences is that so many in every profession fall under that bane which disturbs and complicates our social life—namely, confusing the secondary with the essential. To put it in the words of the humorous Bagehot, "Many excellent men fail because they confuse the parts of conductor and first fiddle." We want to parade the classic, which is at home in the city, at every turn and lord it over houses and gardens and everything.

In my opinion the greater part of our English mansions which have received their inspiration from the Italian Renaissance are not happy in their English settings: they lack the sunny temperament of their home. Take the severe lines of Trenttham, designed by Sir

Charles Barry, with its classical treasures collected at such enormous pains to carry out the illusion—priceless treasures, sculptures, and bronzes, now scattered, gone to America, I am told, to adorn a more degenerate classic than our home attempts. Compare the architectural austerity of Trentham with the expansive homeliness of Welburn Hall, near Kirby Moorside, so becomingly enlarged by Mr. Brierley, of York, or the characteristic Elizabethan mansions such as Berwick Hall, Northamptonshire, and we see at once that the classic grafts badly in our soil, and forms more or less large excrescences. To see classic in its own clime is a vastly different experience from studying it theoretically as pictured in books, or even in our home attempts, because in the main we English dissemble with it, and according to our national instincts make it fall into picturesque groupings.



WELBURN HALL, KIRBY MOORSIDE.

What is paramount and apparent in the architecture of these two characteristic styles is also in great measure correspondingly true of the gardens. The charm of an English garden is the refreshing carpet of green grass: it is the envy of the foreigner and the ever-refreshing delight of those who have had to be absent in other lands. This is our most valuable asset, and where it is absent in quantity, and I may add in quality also, there is absent the charm of an English garden. There are the flowers and the other things that are essential to our home gardens; but if this restful note is absent, good-bye to the illusion; everything else should take character from it.

In the Italian garden there is no such keynote, but the reverse. There the effect, taking them on the whole, is in their abundance of material; and in many, the house is the most restful note of the whole scheme coupled with the green cypress hedges. This is needfully so, because after the fierce sun of June the earth parches, only a few extreme sun-delighting

flowers, such as geraniums (which are likewise the glory of the hot Australian summer) and a few sub-tropical flowers, continue to bloom throughout the remaining hot months, flourishing best where they can gain a welcome shadow from a friendly wall or hedge; therefore an abundance of adornment in the shape of walls, balustrades, fountains, and statuary becomes a necessity, supplying the interest that grass and flowers yield in our home gardens. Browning sighed in Italy, "Oh, to be in England now that April's there!" I fancy if he had remained in Italy the whole year round there would have been other months and other seasons when he would have longed to enjoy home delights. There is not in Italy the crowning glory of the year



BOAT-HOUSE AT KRAIRSET COCHIN (THOMAS H. MAWSON)

in the gardens such as we know blooming in rich disarray in every cottage garden as well as in the herbaceous border and the formal beds of the villa or mansion right up to the frost, each according to its kind holding its own and trying to outvie the other in profusion of bloom and fragrance—begonias and geraniums, fuchsias and calceolarias, anemones and sweet-peas, roses and chrysanthemums, phloxes and sunflowers, dahlias and nasturtiums, and a legion of perky annuals.

It is a common trait in human nature to seek beauty afar and prize it only because it is costly, and disdain that which is accessible and near at hand. For me the English garden is the most beautiful thing in the world.

Thus, then, the Italian is compelled for effect to multiply his enrichments in his garden,

and by contrast he keeps his house comparatively plain; the Englishman needs to gain a great amount of interest in the design of his house, gaining effect in light and shadows by balanced wings, gables, porticoes, and projections, his garden yielding ample interest naturally. Walls, balustrades, pergolas, or garden-houses enhance the effect and produce a sensation of comfort in our changeable climate, or a balustrade to divide one green from another; in Italy they are an absolute necessity to shield both man and plant from the sun. To borrow Bageliot's simile again, in Italian gardens architectural erections and artificial adornments are conductor, and Nature plays first fiddle; in England these performers change places—their first fiddle becomes our conductor. Magnificence and grandeur is what strikes you in an Italian garden; in England homeliness and simplicity.



WYCH HOUSE PLACE, FOR MORTIMER FREEMAN, ESQ.: GARDEN ARCHITECTURE BY THOMAS H. MANNING.

Another notable difference I might mention which justifies magnificence and lavish ornament is that everything in these foreign gardens makes for coolness. The white marble seats and ornaments, cold and comfortless even in summer at home, are there welcome; and to realise the grateful refreshing sensation of coolness you need to watch the rise and fall of a fountain from beneath the shade of an arbour on one of their palpitating hot days. Our fountains and shade devices are make-believes that simulate this gratitude of the senses.

We may without fear of challenge say that the Italian Renaissance gardens are the finest exposition of that school of monumental and artificial regularity where all the features and forms are directed by man; and that the English garden is the expression of the system of natural picturesqueness.

*Historical.*—It would be subject-matter for a whole lecture to trace in detail wherein the

modern Italian Renaissance gardens are founded upon their old Roman prototypes described in the writings of Cicero, Pliny, and others. The genius of Viollet-le-Duc has portrayed for us the estate, the house, its design, and the occupations of an inhabitant of one of these earlier villas, which I find was ably traced in outline by Mr. Thorp about a year ago.\* There are in the existing overgrown ruins of ancient gardens abundant suggestions from which a scholarly and imaginative mind such as Sir Lawrence Alma-Tadema's could reconstruct and repeople and drape after his inimitable manner, which alone befits such grandeur; but apart from the imagination and research all visible traces of the old Roman Suburbanum are very meagre. As we find in seeking to exhume and reconstruct the less remote Elizabethan and earlier



SUMMER HOUSE AT FOOT'S CHATELAIN, R. PHASE ATKINSON, ARCHITECT.

English gardens, the traces are now very disjointed and indefinable, and a garden changes much quicker than a building, which is "a finality when once finished; it changes from season to season, and the growth and decay of its vegetation alike alter its pristine aspect." "We know, however, that before the close of the fifteenth century the gardens of Naples were celebrated for their beauty, for Charles VIII. of France, writing in 1495 to Pierre de Bourbon, waxes eloquent in praise of those which had come into his possession in that city. But it was not till about 1540 that any garden received the form in which we know it to-day, even in its general features. The classical tendencies of architecture and decoration had by this time reached their highest and finest development in the works of men like Peruzzi, Antonio da San Gallo the Younger, Vignola, Giulio Romano, Pirro Ligorio, and others. The influence of

\* "Villas and Gardens of Rome, Tivoli, and Frascati," by William H. Thorp [JOURNAL R.I.B.A., 27 July 1907].

the taste of Bramante and Raphael was still potent, and the extravagances of the Baroque style were still in the future. The Papal Court had then reached its greatest splendour, and Roman society had begun to be dominated by the great ecclesiastical princes and the formidable array of Pope's nephews who monopolised the higher posts of Church and State. Most of the finest villas were built for cardinals and Church dignitaries, of whom the majority sustained this dubious relation to the head of the Church. The Lante, at Bagnaia, first built in 1477 for Cardinal Riario, was, about 1550, remodelled by Vignola for one of the Farnese nephews. To this family also belonged the imposing castle and beautiful grounds at Caprarola, also Vignola's work. The superb Villa d'Este at Tivoli, one of the earliest as well as finest of extant works of the kind, was designed about 1540 by Pirro Ligorio for the Cardinal Ippolito d'Este. At Frascati, the ancient Tusculum, is an extraordinary group of contiguous villas—the Aldobrandini, Falconieri, Mandragone, and others, all built for cardinal princes by such artists as Della Porta, Giovanni Fontana, Olivieri, Martino Longhi, Flaminio Ponzio, and others. At Rome the Borghese Villa, originally built for the Dukes of Atene, was enlarged in 1605 by (for) Caffarelli, nephew of Paul V.: on attaining the cardinalate he assumed the name of Borghese. The Farnese, Farnesina, Pamfili Doria, Albani, and a dozen others owe their existence to the wealth and extravagance of these churchly lords.

"With the decline of the secular power of the Church consequent upon the Reformation, the social conditions out of which these vast establishments had grown slowly passed away: the building of new villas ceased, and it has been only with the utmost difficulty that some of these vast and wealth-consuming estates have since been maintained in even tolerably perfect condition. Not a few have run to decay, and are to-day endowed with the new and melancholy charm of ruin."<sup>2</sup>

The dreamy charm of tenderness almost to sadness that steals over anyone who is susceptible to the suggestions of past memories in many of the ruined Italian gardens is beyond description. As our feet fall silently on the dust of human joys and sorrows, the air we breathe seems laden with emotions: the overgrown hedges, tangled vines, shrubs, and ivy clambering over the falling walls, fountains silent and dry, broken marble and cement steps, and moss-grown and decapitated statues, walks overgrown with weeds—this speaking silence is both happy and sad. It is the dreamy sadness that suits a poetic imagination or a person tired and disappointed with our busy, noisy, modern life.

Everywhere in Italian gardens architecture is more in evidence than the gardener, and you are never for one moment allowed to think otherwise. The position of many of the villas and temples shows a keen love and appreciation of panoramic landscape commanding extensive views of the country round, but there is no attempt to merge, in the English sense, the garden into the landscape; indeed, huge terraces rise precipitously out of the hillside to enormous heights, the massive walls, as at Villa d'Este at Tivoli, the Borghese gardens in Rome, being more suggestive of fortresses than of garden enclosures. The extent of these enclosures is, with few exceptions, comparatively small, disappointingly small I might almost add, for somehow one expects the best gardens to have some relation to the extent of the country in which they are situated. Especially is this so if one approaches the study of Italian gardens by way of France and the work of Le Nôtre at Versailles and Fontainebleau. True, one reads of the larger country villas which covered from 200 to 400 acres, but this included much more than the actual site of the villa and gardens; there were the orchards, vineyards and olive groves, and woods of stone pine and cypress, planted, I imagine, as wind screens, leaving a modest acreage for the gardens; but for richness of architectural detail

<sup>2</sup> *European and Japanese Gardens*, by Prof. A. D. F. Hamlin.

these have never been surpassed. In and around Rome especially the love of architecture and sculpture is carried to the highest level of attainment, every residence of any importance, even in the heart of Rome, having its open court refreshed with wall fountains flowing into cool ponds adorned with sculpture, the court beautified with citrons, oranges, vines, and flowering plants in pots enriched in addition: many of the gardens to larger town houses are enriched with every kind of edifice for ornament and rest. These courts and smaller gardens are intensely interesting, and would provide ample study for the architectural student for months, and bring him into touch with the work of such men as Gallo the Younger,



LOGGIA AT FORTUNA DI PAVIA.

Vignola, Giulio Romano, Pirro Ligorio, and many others whose work had reached the high-water mark of attainment.

Whether large or small, the gardens of Italy first impress one as decorative settings to the palace or villa, where the thing that pleases most is the work of man, "the evidence of design, symmetry, order, balance, contrast, ornament, not the aspect of natural growth, but nature subdued to human control"; therefore Englishmen expecting to find great examples of horticulture and arboricultural skill are doomed to disappointment, for Italy is not, and so far as one can judge never has been, the land of great gardeners. In a treacherous climate the continuous demand for things out of their natural season, which converts a sturdy, energetic people into fine gardeners, these are untoward conditions which seem to be absent

from dreamy, sunny Italy. This lack of the gardening instinct, if one may so call it, is perhaps most noticeable in the very limited variety of trees, shrubs, and particularly flowering plants which one sees in Italian gardens. Of course, the very strict administration of the laws for the prevention of phylloxera, or vine disease, has largely contributed to the limiting of variety, for whereas English botanists and nurserymen are ever on the search for new additions to the already enormous number of trees, shrubs, and flowers, no plant can be imported into Italy from prohibited countries. Holland, I believe, is one of the exempted countries, and when a resident in Italy wishes to secure the latest introduction from Japan or the last hybrid from England, the plants are first sent to Holland and then reconsigned to Italy, with the accompanying delays and the annoyance of a double tariff: therefore the importation of plants and roots is very limited. From the garden designer's point of view this is not altogether a disadvantage, for in those gardens where horticulture is practically followed this limiting of species and varieties leads to massed effects which are entirely satisfactory and delightful. Thus you will see long rose bowers and arched walks covered entirely with white and yellow Banksian roses, and perhaps on either side long beds of slate-coloured *Iris germanica*, then a walk bordered with orange trees and fruit and flowers, whilst on the top of the boundary wall is a carpet of a native rose which in colour and manner of flowering is closely allied to our well-known and favourite Cramoisie Superieure. Beyond the garden wall (in the *podere*) are groups of stone pines and cypress, and this is practically all you see until you explore the purely utilitarian department of the garden, when you realise how carefully the continuity of these fine effects is provided for by the hundreds of azaleas, oleanders, and geraniums growing in pots and ready to take their place on the terrace. In some of the larger public gardens, such as the Borghese, the curators seem to have been influenced somewhat by what is known as the English school of landscape gardening; but this only applies to the grouping arrangement of shrubs and trees according to English models. In like manner great labour is bestowed upon the small patches of green lawn, which by constant watering, rolling, and mowing eventually and hardfully produces a carpet of green which, in contrast with the sombre green of the ilex, olive, and stone pines, adds much to the charm of these gardens.







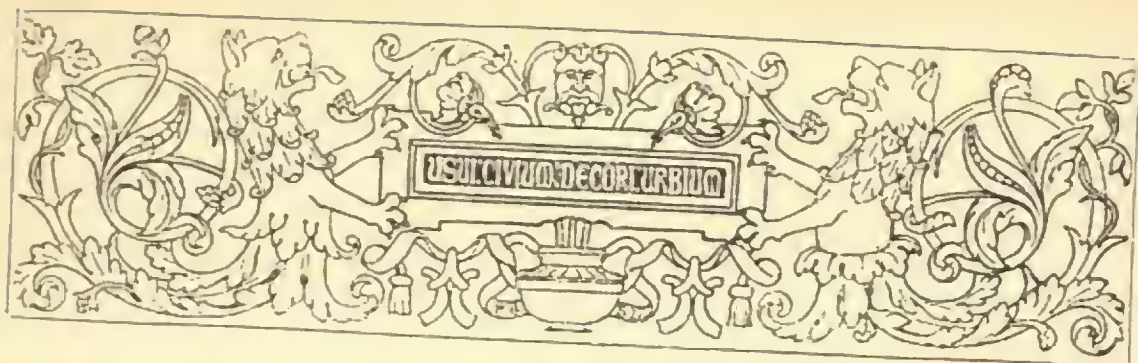
Photo. Eug. Fina, Paris.

*Daumet H.*  
*de l'Institut*

HONORÉ DAUMET [*Hon. Corr. M.*]

Membre de l'Institut de France.

ROYAL GOLD MEDALLIST 1906.



## THE ROYAL GOLD MEDAL.

Presentation to M. HONORÉ DAUMET, Member of the Institut de France, Commander of the Legion of Honour [*Hon. Corr. M.*], Monday, 22nd June 1908.

ADDRESS BY MR. HENRY T. HARE, *Vice-President*.

LADIES AND GENTLEMEN,—

THE occasion on which the Royal Gold Medal is given annually by His Most Gracious Majesty the King to some distinguished architect or man of science or letters with architectural instincts is justly considered the most important of those on which we meet together, and the absence of our esteemed and distinguished President on urgent business across the Atlantic is, I am sure, a matter of regret to himself equally with us; and we must all wish him a speedy and safe return. The presentation of the Royal Gold Medal lacks something of its dignity and importance when it is performed by a less person than the President himself.

The Medal is given, as you know, in recognition of distinguished services to the art of architecture, either in its practical exercise or in the production of works tending to promote or facilitate the knowledge of architecture or the various branches of science connected therewith; and as art, and particularly the art of architecture, is the common possession of all nations and countries, and is indeed a language in which all peoples may converse, and in which each may learn much from the others, it is our custom, in selecting the name of the recipient to be submitted to His Majesty, to ignore, on stated occasions, the narrow bounds of our own country and to nominate one of our brethren of foreign nationality who has devoted his life and energies to the art which we love. In doing so I think we may say we honour ourselves as well as the recipient, and demonstrate that we are actuated by no narrow or insular prejudice, but are prepared to extend a whole-hearted appreciation to the labours of those who perhaps do not in all things see eye to eye with us.

We English architects have, however, drawn much of our inspiration from foreign countries—more, perhaps, than we sometimes care to acknowledge—and if during our long history we have developed definite national characteristics in our architecture, we must not altogether ignore the original sources from which much of our architecture is derived.

At the present moment, when the happy and permanent *rapprochement* with our nearest neighbour has culminated in the Franco-British Exhibition, when we welcome as our guests here in London probably a far greater number of our French friends than have ever been amongst us at one time before, it might naturally be assumed that in suggesting to His Majesty the name of a French architect as recipient of the Royal Gold Medal we were

actuated mainly by the popular impulse of the moment to do honour to the great nation whom we are happy to regard as our best friends. This is, however, a mere coincidence, gratifying enough in itself certainly, but in no way the true explanation of our selection. The real facts are that, having decided that this year the name of a foreign architect should be put forward, it was impossible for us to overlook the paramount claims of M. Honoré Daumet, whom we are pleased to see with us to-night, and to whom we extend the most cordial and hearty welcome.

In honouring M. Daumet we wish to express our sincere appreciation of his great works as an architect, and through him also our admiration for contemporary French architecture. I have said that we owe much of our own inspiration to foreign countries, and to no country do we owe more than to France. Perhaps few of us realise how much this is so, and as instances taken at random I may mention the City of London School, Scotland Yard, and the original portion of the School Board offices, none of which we should have in their present form were it not for French influence. A moment's thought will suggest many other familiar cases in point.

Architecture in France has probably pursued a more regular and less turbulent course than it has with us in England. She has known no "battle of the styles," and no revivals, Gothic or otherwise; but, although the even tenor of its way has been marked by less strenuous feelings than with us, it is, and always has been, a living and progressive art, understood and appreciated by its public to a much greater extent than here; and it is in this intelligent and cultivated public appreciation that so much of their strength lies. The French, also, more than any other nation, have fully realised the intimate connection between the arts of architecture, sculpture, and painting, and in no country are these so happily united and so mutually sympathetic.

Of the vitality of French art in the present generation no proof is necessary, but I may be pardoned for instancing the magnificent Gare d'Orléans, Guinain's École de Médecine, M. Népote's Sorbonne, the beautiful little Chapelle Expiatoire in the Rue Jean Goujon, and M. Daumet's own work at the Palais de Justice.

But I must now introduce M. Daumet to you more particularly, and give a short *résumé* of his career.

M. Pierre Jérôme Honoré Daumet was born in Paris in 1826, and was a pupil of MM. Blouet and Gilbert. In 1855 he was awarded the Grand Prix de Rome, the greatest prize to which a French architect can aspire, and success in which practically assures his future career. In 1885 he was elected Membre de l'Académie des Beaux-Arts and of the Institut de France. He is also attaché of the Commission des Monuments Historiques, Honorary Architect-in-Chief of the Department of the Seine, Honorary Inspector-General of the Conseil d'Architecture de la Ville de Paris, Official Architect of the Cour d'Appel and to the Château St. Germain, Past President of the Société Centrale des Architectes Français, Past Vice-President of the Société des Artistes Français, Commander of the Légion d'Honneur. He has also been awarded many medals and other distinctions too numerous to mention.

Amongst his many architectural works may be noted the following: The Palais des Facultés at Grenoble; the Chapelle Ecce Homo at Jerusalem; Chapelle et Pensionnat des Dames de Sion, Paris; the great restoration of the Château de Chantilly for the Duc d'Aumale; works at the Château St. Germain; the Palais de Justice, Paris; the rebuilding of the Palais de Justice, Grenoble; and the buildings of the États Pontificaux at the Exposition Universelle of 1867.

With many of these works all of us are not personally familiar, as they are in the provinces or foreign countries, but we all know and admire the Palais de Justice, Paris, as a

great and lasting monument, sufficient in itself to establish M. Daumet as a great architect and artist. His work at Chantilly is also universally esteemed as the very highest expression of our art.

To the educational side of architecture his services have been no less distinguished and remarkable. No fewer than nine of his pupils have been awarded the Grand Prix de Rome, and completed their studies at the Villa Médicis, the first one in 1872 and the last so recently as 1906—a most remarkable and, I should think, unique record. One of these, M. Girault, was the architect of the Petit Palais in the Champs-Élysées, a building with which we are all familiar and regard with the greatest admiration.

M. Daumet's latest book on the Château of St. Germain is now in our Library. I may add that he was elected by the unanimous vote of all the nations represented to be President of the Permanent International Congress Committee.

In concluding I may be permitted to remind M. Daumet that, in becoming one of the select number of those of all nations who wear the Royal Gold Medal, he is not by any means the first of his countrymen to receive the honour. Amongst his predecessors are Viollet-le Duc, Charles Garnier, César Daly, and Auguste Choisy, all men of world-wide reputation, and whose work and influence live to-day and will continue in the future, though, alas! the three first-named are no longer with us. We are confident that M. Daumet is in every way worthy to take his place beside these great compatriots of his, and that his work will equally endure and exercise a lasting influence on generations yet to come.

Mr. Hare, turning to invest M. Daumet with the Medal and addressing him in French, concluded :—

Et maintenant, Monsieur Daumet, j'ai l'honneur de vous présenter, du part de l'Institut Royal des Architectes Britanniques, la Médaille donnée par sa Majesté le Roi Edouard VII, de vous féliciter de vos œuvres distinguées, et de vous souhaiter encore beaucoup d'années pour le service de notre bel art d'Architecture.

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## M. DAUMET'S REPLY.

MESDAMES, MESSIEURS ET CHERS CONFRÈRES.—

**J**E suis très ému, ne vous en doutez pas, de l'honneur que vous me faites, et je vous porte le témoignage très sincère de mes remerciements.\*

Mesdames, je ne savais pas que j'aurais la bonne fortune de vous trouver parmi mes auditeurs et je vous fais mes excuses.

Vous, mes chers confrères, m'avez fait l'insigne honneur de me désigner à la bienveillance de sa Majesté le Roi de la Grande Bretagne comme titulaire en 1908 de la Médaille instituée sous les auspices de son auguste mère la Reine Victoria. Je suis profondément touché du témoignage d'estime que me donnent mes confrères anglais. Je le considère comme s'adressant à l'un des doyens des architectes français, non par l'âge, car ce doyen réside à Chartres au pied de sa belle Cathédrale, il est dans sa centième année. Quant à moi, c'est en 1839, et assez petit de taille, que l'on me mettait le crayon à la main, il y a soixante-neuf ans ; c'est seulement en 1861 que je terminais mes études ; elles avaient duré vingt-deux années et s'achevaient à la Villa Médicis à Rome. J'étais anxieux sur mon avenir, c'était l'inconnu, lorsqu'une chance heureuse me fit attacher à la Mission de Macédoine que dirigeait mon ami, M. Léon Henzey, que je rejoignis plus tard en 1885 à l'Académie des Beaux-Arts. Les résultats de cette mission ont été publiés avec l'appui du Gouvernement impérial d'alors, publication dont j'ai fait hommage à l'Institut Royal lorsque vous m'avez nommé l'un de vos correspondants. Avant cette époque déjà lointaine d'importants travaux m'avaient été confiés ; en 1867 je devenais Architecte Ordinaire du Palais de Justice de Paris avec M. Duc, qui fut un de vos Laureats. En 1875 Mgr. le Duc d'Aumale me chargeait de reconstruire le Château de Chantilly, devenu, par une libéralité retentissante, "le Musée Condé." J'acheve la restauration du Château de Saint-Germain. Mon professorat a duré trente ans. Parmi mes nombreux élèves neuf ont été ou sont pensionnaires de l'Académie de France à Rome. Vous connaissiez ma vie de labour, messieurs et cher confrères, mais comment ne pas remémorer mon passé lorsque vous m'attribuez la haute distinction d'une fin de carrière, et quelle joie pour moi de vous dire tous mes sentiments de reconnaissance.

Il y a quelques jours j'exprimais à M. le Marquis de Vogüe ma satisfaction d'être appelé près de vous pour recevoir le même honneur qui lui a été conféré par votre Institut il y a bien des années. Lorsqu'il était Ambassadeur à Constantinople, ses recherches érudites sur l'Art dans la Syrie Centrale justifiaient votre choix ; je suis heureux, comme mon éminent confrère de l'Académie des Inscriptions, de participer à la haute considération qui s'attache à vos élus, comme M. McKim, mon ancien élève, et M. Choisy, le savant professeur à l'École Polytechnique si connu pour ses belles publications sur les Constructions antiques. Si, mes chers confrères, je deviens plus étroitement des vôtres je le dois à Mr. Phénix Spiers, avec lequel de longue date je suis en communauté d'idées et de sympathies. C'est un ami avec lequel je partage l'admiration de l'art sous toutes les formes, la passion d'enseigner et aussi d'amasser des souvenirs de voyages. Partout on ne se sont portés, des dessins,

\* M. Daumet's opening words were in response to the warm and long-continued cheering which accompanied and followed the investiture.

des croquis grossissaient nos cartons. Certaines aquarelles de lui sont devenues documentaires et d'une vérité poignante pour les Français. Si elles sont d'un artiste aimant notre pays, elles rappellent nos malheurs publics en représentant en 1871 des ruines alors presque fumantes, le Château des Tuileries, de l'un de nos plus célèbres Architectes, Philibert Delorme, château dont il ne reste que des fragments épars d'une beauté surprenante.

Quels temps glorieux pour l'art français lorsque vivaient cet illustre maître—Jean Bullant, les Chambiges, Pierre Lescot et plus tard Androuet DuCerceau, ce dernier si bien représenté à la bibliothèque du British Museum par ses dessins originaux " Les plus excellents batiments de France " publiés par ordre de Marie de Médicis, protectrice des Arts.

Je ne m'égare pas, mes chers confrères, en vous entretenant des grands Architectes. Vos Rois les ont encouragés aussi à toutes les époques de votre histoire. Quelles œuvres que vos églises, Cantorbéry, Le Temple, Saint-Paul; et parmi vos palais Somerset House et tant d'autres édifices dont beaucoup d'entre les congressistes ont admiré la beauté, au VII<sup>e</sup> Congrès International. A cette occasion vous nous faisiez mieux connaître vos villes d'université uniques dans le monde, Oxford, Cambridge; vos Châteaux Royaux, votre sanctuaire historique de Westminster, votre Parlement. Nous étions sous le charme avec tant de confrères venus de tous les points du Globe, heureux d'être si confraternellement accueillis, une courtoisie, une prévenance dont le souvenir ne s'effacera pas. Permettez-moi, messieurs, d'exprimer personnellement mes sentiments d'estime pour le président d'alors de votre Institut, l'honorable M. Belcher. En 1906 je partageais ses devoirs. Nous recherchions des solutions pour assurer nos intérêts professionnels et l'honneur de notre Art. Ce sont là des travaux pacifiques, mais ils ont une valeur pour nous, mes chers confrères. Les congrès, en rapprochant les Architectes des diverses nations, resserrant les liens qui les unissent, sont une source de souvenirs dont je citerai quelques-uns. Quelle grandiose séance que celle d'ouverture officielle du VII<sup>e</sup> Congrès d'Architectes dans la magnifique salle de Guild-Hall, où des Princes de la Maison Royale d'Angleterre présidaient la réunion; quelles acclamations respectueuses, et quelle brillante réception au Mansion House où le Lord Maire et Lady Mayoress recevaient vos confrères et leurs familles. Quelle meilleure démonstration de l'importance qu'occupe l'Architecture dans le monde civilisé que ces congrès retentissants.

Souhaitons que ces solennelles sanctions acquises à nos congrès internationaux d'abord à Madrid se développent grâce à cet autre exemple si largement donné à Londres par l'initiative de l'Institut Royal, par les fêtes offertes à vos confrères étrangers. Laissez-moi vous dire, mes chers confrères, que ces fêtes feront époque. C'était enchanteur. Quelles impressions ont été emportées de ce banquet de Cecil Hôtel, de ces chants si graves glorifiant votre souverain, exaltant votre patriotisme. Rien ne pourra dépasser la cordiale entente des Architectes dont vous avez réalisé l'idéal.

Je suis heureux de l'affirmer en si belle compagnie en vous remerciant de tout cœur, mes chers confrères. L'honneur que vous m'avez fait aujourd'hui me restera cher.



9 CONDEIT STREET, LONDON, W., 27th June 1908.

## CHRONICLE

### The Royal Gold Medal.

M. Daumet, accompanied by his wife, arrived in London from Paris on Sunday last, and was received at Charing Cross Station by Mr. R. Phéné Spiers, F.S.A. [F.]. On Monday he was entertained at dinner by the Council, and the presentation of the Medal took place the same evening before a large gathering of members, ladies, and other guests. The French Ambassador, who was abroad, had written regretting his inability to attend, and his place was taken by one of the Secretaries of the Embassy. Past Gold Medallists were represented by Mr. Ernest George (1896), who later in the evening was formally installed as President; by Sir Aston Webb, R.A. (1905), and Mr. John Belcher, A.R.A. (1907). A glance at the portrait which was expressly taken for this number shows how well M. Daumet sustains his eighty-two years. He has indeed the bearing of a man many years younger. As he explained to the meeting on Monday, he does not claim to be the *doyen* of French architects, at least as far as years go. The real *doyen* is in his hundredth year, and lives at Chartres, under the shadow of its beautiful Cathedral. The pleasing ceremony of investing M. Daumet with the Medal was performed to the accompaniment of the enthusiastic cheers of the assembly, which were renewed again and again as the venerable *maître* turned to deliver his reply. M. Daumet was among the distinguished guests of the Institute at the Annual Dinner on the day following the presentation, and sat next the President. His visit to England terminated on Friday the 26th.

### Mr. Colcutt's Retirement from the Presidentship.

Last Monday's General Meeting was the concluding one of the Session, and with it came to an end also Mr. Colcutt's term as President. Before the Meeting separated, advantage was taken of the opportunity to express publicly the sense of appreciation felt by members for the devoted and arduous service he has rendered the Institute during his occupancy of the Chair.

Mr. JOHN SLATER [F.], addressing the Meeting, said: It must be a source of regret to all who are here to-night that circumstances have prevented our outgoing President, Mr. Colcutt, from rounding off his period of office by being present with us on this occasion. Unfortunately business has obliged him to cross the Atlantic, and he has not been able to return in time to take part in this the most interesting function of the Session. The duties which now attach to the Presidential Chair are very much more exacting than they were five-and-twenty years ago, when I first began to be connected with the work of the Institute. At that time there seemed to attach to the position of the Chair an air of dignified aloofness, one might almost say of slumberous ease, which, though suggestive of rest and contentment, was hardly invigorating. But with the democratising of this as of most modern institutions, and with the more vigorous life and wider interests engendered by it, the duties of the President and of the Council have become increasingly onerous. Mr. Colcutt, our outgoing President, is a man of strong opinions—who that is worth anything is not?—but we must all agree that, whether he was presiding over the Council downstairs or at the meetings in this room, his earnest desire was to hold the scales even, and to give fair play to all the views submitted by members, even though he dissented from them; and he has worthily upheld on all occasions the high traditions of his office. It would not be fitting if at this the last meeting of the Session we omitted to record a hearty vote of thanks to Mr. Colcutt for his conduct in the Chair, and I have very great pleasure indeed in submitting that resolution to this meeting. Further, while speeding the parting President, I feel I shall carry you all with me in expressing to the distinguished architect whom we have elected as our next President our hearty congratulations on his accession to the Chair and our best wishes for a pleasant and prosperous tenure of office. I am sure that the resolution I have moved will be carried by acclamation, and, in order that it may be formally put, perhaps Mr. Hall, our Vice-President, who has been greatly associated with Mr. Colcutt in the work of the last two years, will kindly second it.

Mr. EDWIN T. HALL, Vice-President, said: I have the very greatest pleasure in seconding the vote of thanks which Mr. Slater has so eloquently proposed to our outgoing President. Those who know Mr. Colcutt intimately know also the innate modesty of the man. It was only after considerable pressure that he could be induced to accept the position of President. But the moment he recognised that it was his duty all reserve disappeared, and he took upon himself the onerous duties of the position, and devoted himself with unflagging energy to the work. I am sure everyone will bear me out that he has filled the office splendidly and with due estimation of the dignity

and importance which attach to the position of President of the Institute. Mr. Slater has referred to the impartiality and loyalty our outgoing President has always displayed, giving deference to suggestions and opinions even when they were opposed to his own personal views, and always with a sincere desire for fair play. Those who do not know the difficult and arduous work of the Council would be interested to know that not only was Mr. Colclutt a constant attendant at their meetings and a most zealous chief, but scarcely a day passed that he was not in consultation with one or other of the Vice-Presidents with a view to bringing about something which would further the interests of architecture and enhance the nobility of the profession to which we have the honour to belong. That being so, no further words are necessary from me, but I very cordially second the vote of thanks Mr. Slater has proposed. I should like at the same time to echo what he has said with regard to our incoming President, a gentleman whom we have all looked up to with esteem from the time when we were young—I regret to say that years are so advancing that I find myself the oldest of the Vice-Presidents. Mr. Ernest George we have esteemed for many years as a gifted exemplar of our art. We are confident that he will bring his great powers of mind to the duties of the Presidential Chair, and I have no doubt we shall have reason at the end of his term of office to congratulate him on the way in which he will have done his duty.

The resolution having been put from the Chair and carried by acclamation, Mr. Ernest George, on the invitation of the presiding Vice-President, advanced to the table, and, having been invested with the Presidential chain and badge of office, the Vice-President vacated the Chair and the new President was formally installed therein.

Mr. ERNEST GEORGE, whose installation was greeted with hearty and prolonged applause, briefly expressed his acknowledgments for the kind reception accorded him. He said that, lacking the qualities of the man of business and of the orator, he doubted the wisdom of the selection. Nevertheless, being elected, he accepted the honour, and would do his best in the interests of the Institute.

#### The Annual Dinner.

The Annual Dinner of the Institute took place at the Whitehall Rooms, Hôtel Métropole, on Tuesday, the 23rd June. The chair was taken by Mr. Ernest George, the new President, who had been formally installed the previous evening. The company numbered 130, the guests at the high table including, to the President's left, M. Honoré Daumet, the Royal Gold Medallist of the year; Sir Lawrence Alma-Tadema, O.M., R.A. [H.F.]; Sir Wm. Emerson, *Past President*; Sir Thomas Sutherland, G.C.M.G.; Mr. George Frampton, R.A. [H.A.]; Mr. Henry Morris, Presi-

dent of the Royal College of Surgeons; Mr. Alfred East, A.R.A., President of the Royal Society of British Artists; Mr. Leonard Stokes, *Vice-President*; and Mr. Howard Martin, President of the Surveyors' Institution. On the President's right were Mr. R. A. Robinson, Chairman of the London County Council; the Hon. Sir Schomberg McDonnell, K.C.B., C.V.O.; Sir Aston Webb, R.A., *Past President*; Mr. Cass Gilbert [Hon. Corr. M.], President of the American Institute of Architects; Sir Melvill Beachcroft; Mr. Frank Dicksee, R.A.; Sir G. C. V. Holmes, K.C.V.O., C.B.; Sir John Taylor, K.C.B. [F.]; Lieut.-Col. A. C. Preston, V.D., Master of the Worshipful Company of Carpenters; Mr. Henry T. Hare [F.]; Count Plunkett [H.A.], and Mr. James Carmichael, President of the Institute of Builders. Mr. John Burns, the President of the Local Government Board, had accepted an invitation, but was unfortunately prevented from coming by the indisposition resulting from his endeavours to avert a serious accident in the streets a few days before. The lower tables were presided over by Mr. Alexander Graham, F.S.A., *Hon. Secretary*; Mr. Edwin T. Hall, *Vice-President*; Mr. James S. Gibson, *Vice-President*; Mr. Edward A. Gruning [F.], and Mr. John Slater [F.]. Mr. John W. Simpson, *Vice-President*, was unable to attend owing to a sudden family bereavement. The following is an alphabetical list of members and others present:—

Mr. Maurice B. Adams [F.], Sir Lawrence Alma-Tadema, O.M., R.A. [H.F.], Mr. Maxwell Ayrton [A.], Mr. Herbert Batsford, Sir Melvill Beachcroft, Mr. Hippolyte J. Blanc, R.S.A. [F.], President of the Edinburgh Architectural Association; Mr. C. W. Brooks [A.] and Guest, Mr. John J. Burnet, A.R.S.A. [F.], Sir Edward Busk, I.R.B., Mr. Edward Calvert, Mr. Rhodes Calvert [F.], Mr. Macdonald Cameron, Mr. G. W. Canham, Mr. E. Louis Cappell, C.I.E., Mr. James Carmichael, President of the Institute of Builders; Mr. Walter Cave [F.], President of the Architectural Association; Mr. F. Dore Clapham [A.], Mr. Max Clarke [F.], Mr. Howard Colls, Mr. Hubert C. Corlette [F.], Mr. H. O. Crosswell [F.], Mr. Henry A. Crouch [A.], Mr. A. W. 8. Cross [F.], M. Honoré Daumet [H.C.M.], *Royal Gold Medallist 1908*; Mr. E. Guy Dawber [F.], Mr. Frank Dicksee, R.A. [H.A.], Mr. D. G. Driver, Mr. Alfred East, A.R.A. [H.A.], President of the Royal Society of British Architects; Sir Wm. Emerson [F.], Mr. William Flockhart [F.], Mr. G. McLean Ford [F.], Mr. Lawton R. Ford [A.], Mr. George Frampton, R.A. [H.A.], Mr. Arthur Franklin, Mr. Edward Gabriel [A.], Mr. Matt. Garbutt [F.], Mr. Alan George, Mr. Ernest George, *President*; Mr. James S. Gibson, *Vice-President*; Mr. Cass Gilbert, President of the American Institute of Architects; Mr. Wm. Glover [F.], Mr. Alexander Graham, F.S.A., *Hon. Secretary*; Mr. E. A. Gruning [F.], Mr. Edwin T. Hall, *Vice-President*; Mr. Stanley Hamp [A.] and Guest, Mr. F. H. A. Harlestone [A.], Mr. Henry T. Hare [F.], Mr. Osborn C. Hills [F.], Sir G. C. V. Holmes, K.C.V.O., C.B., Mr. Edgar Homan, Mr. Gerald C. Horsley [F.], Mr. Martin Howard, Mr. George Hubbard, F.S.A. [F.], Mr. Percy Hunter [A.], Mr. C. E. Hutchison [A.], Mr. Arthur J. James, Mr. J. J. Joass [A.], Mr. Edmund Kirby [F.], Mr. Henry Lovegrove [A.], President of the District Surveyors' Association; Mr. Max Landlar, Mr. A. G. B. Mackenzie [A.], Mr. A. Marshall Mackenzie, A.R.S.A. [F.], Hon. Sir Schomberg McDonnell, K.C.B., C.V.O., Mr. Howard Martin,

President of the Surveyors' Institution; Mr. Albert W. Moore [F.], Mr. Henry Morris, President of the Royal College of Surgeons; Mr. John Murray [F.], Mr. Ernest Newton [F.], Mr. Percy F. Newton, Mr. Paul Ogden [F.], President of the Manchester Society of Architects; Mr. A. E. Lloyd Oswell [A.], Mr. E. Handling Payne [A.], Mr. H. A. Pelly [A.], Professor Beresford Pite [F.], Mr. William A. Pite [F.], Count Plunkett [H.L.], Mr. Horace Porter [A.], Mr. A. N. Prentice [F.], Lieut.-Col. A. C. Preston, V.D., Master of the Carpenters' Company; Mr. Arthur Pridmore, Mr. W. E. B. Priestley, M.P., Mr. Arthur H. Rehl [F.], *Hon. Secretary R.I.B.A. for South Africa*; Mr. Halsey Ricardo [F.], Sir Wm. Richmond, K.C.B., R.A., [H.L.], Mr. Thomas M. Rickman, F.S.A. [A.], Mr. F. E. Robertson, Mr. R. A. Robinson, Chairman of the London County Council; Mr. Ernest A. Runtz [F.], Mr. Edwin O. Sachs, Mr. Stuart M. Samuel, M.P., Mr. W. A. Sanders, Mr. Joseph Sawyer [F.], Mr. Frank W. Simon [F.], Mr. John Slater [F.], Mr. Lewis Solomon [F.], Mr. B. Phené Spiers, F.S.A. [F.], Mr. Alexander R. Stenning [F.], Mr. Leonard Stokes, *Vice-President*; Sir Thomas Sutherland, G.C.M.G., Mr. Arthur Sykes [F.], Sir Henry Tanner [F.], Mr. Henry Tanner, Jun. [F.], Sir John Taylor, K.C.B. [F.], Sir Brumwell Thomas [F.], Colonel G. Trollope, V.D., Mr. Cyril C. O. Van Lennep, Mr. T. Blake Wirgman, Mr. Edward Warren, F.S.A. [F.], Mr. Paul Waterhouse [F.], Sir Ernest A. Waterlow, R.A., Mr. Thomas Henry Watson [F.], Sir Aston Webb, R.A. [F.], Mr. W. Henry White [F.], Mr. Herbert Wigglesworth [F.], Mr. Frank W. Wills [F.], Mr. Wm. Woodward [F.], Mr. Alfred B. Yeates [F.], Col. Carmichael Young, R.E., Mr. Clyde Young [A.], the Secretary and other officials of the Institute, and representatives of the Press.

A selection of music was excellently rendered during the evening by the Westminster Glee Singers.

The loyal toasts having been proposed by the President and duly honoured,

Sir ASTON WEBB, R.A., *Past President*, proposed "The Houses of Parliament." The Institute, he said, was not in any sense a political body, and members of the Institute did not interfere very much in matters political. But as Englishmen they were very proud of the institutions under which they lived, and that they were able to enjoy the advantages open to them in England; and as architects he thought that, not unnaturally, they would prefer two houses to one! Individually members of the Institute very constantly met members of both Houses of Parliament, and he was sure he was only expressing the feelings of all when he said that when they had the good fortune to meet them they, as architects, were always treated with uniform courtesy and fairness, and with great consideration for the matters it was their duty to bring before Members of Parliament. At the present time there was a Bill before Parliament which very greatly interested them and every member of the Institute—a Bill which was called the Housing and Towns Planning Bill—a Bill which was under the care of the President of the Local Government Board, Mr. John Burns. Mr. Burns was to have replied to the toast that evening, but an unfortunate accident had happened to him in trying to rescue a man who was in a most dangerous position, and he was sure they would all join with him in hoping that Mr. Burns would soon be restored to health, able to return to his duties,

and to continue what must be considered one of the most marvellous careers of the age. The Institute was entirely in sympathy with the objects of the Bill; but he hoped that before it took final shape the æsthetic side of the town-planning of our towns would be secured a little more than seemed to be the case at present. There was another matter in which they were all keenly interested—viz. the establishment of some advisory authority on all matters relating to the embellishment and beautification of our towns. They believed that a great many members of Parliament were entirely in sympathy with that object. He had heard—although he did not say it was true, very likely it was not—that very often the Houses of Parliament had nothing particular to do, and if that were so, and they would take up this matter and carry it through, they would secure not only the gratitude of the Institute but of those who looked forward to the day when the City Beautiful would be more than the something in the clouds that it was at the present time.

Mr. STUART M. SAMUEL, M.P., who replied, said that popular opinion had changed in recent years with regard to the architecture of the Houses of Parliament. He remembered the time when the buildings were considered ugly, but nowadays he believed they had come to be regarded as a very fair specimen of the architecture of London. The architectural profession could not be indifferent to the changes of fashion that went on around us, and he would not be the least astonished, now that the Directoire costume was to be the fashion again, that architects would turn their attention to the architecture of that period. Doubtless the fashion, so far as artists were concerned, was not popular, but if architects would turn their attention to the architecture of the Directoire period they might make the architecture of that period a little less incongruous. So far as the House of Commons was concerned, the practice of architecture would be subjected to a revolution if another Bill now before Parliament passed, i.e. the Daylight Saving Bill, which would enact that a little bit of night should be added to daytime, and that would enable people to see more of the beauties of architecture. He believed that architects would not fail to respond to the demand made upon them if the Bill passed.

Sir EDWARD BUSK, LL.D., proposed "Art and Science." He felt, he said, a great respect for these two subjects. They were in many respects alike. Both of them must be based upon a close observance of the facts of nature; both of them must contain generalisations from those facts; both of them must be backed up by a vivid imagination. Of art this was obviously true; of science it was equally true, although perhaps the truth was not so obvious. But no advance had ever been made in any science—not even in that most abstract science of mathematics—without the use of a strong and vivid imagination. Where the two subjects differed was in the results of the observa-

tion of nature and the exercise of generalisation and imagination. Science was bound to be absolutely impersonal—to form its rules, to bring out its laws, to dissect, to analyse, to synthesize, without any reference to individual persons. But when art had exercised its observation and imagination, the result should, it seemed to him, be the expression of a strong personal feeling and a general universal emotion. In the university in which he had the honour of working, they had their science faculty—they were in fact the first university to give science degrees in the British Isles. They had also their art side, and since they had been made part of the University College of London they had their Slade Professorship in art. They had, therefore, in the course of their work to look upon both sides of their work—the artistic and scientific; and more than that. It was impossible, he should think, for an architect to produce any work of art without a thorough knowledge of a great many scientific principles—there were such matters, he had heard, as strains and stresses, proportion, &c., which were based upon principles of mechanics, physics, and even upon that driest of subjects, mathematics. It was therefore peculiarly appropriate that the two subjects of art and science should be combined together on an occasion like the present, and he would wish them the greatest prosperity, the swiftest advance, and the heartiest success.

Sir LAWRENCE ALMA-TADEMA, O.M., R.A. [*H.F.*] whose name was coupled with the toast, said, in response, that science is the civilisation of man, and art is the flower of civilisation. The two could not exist without one another, although there are people who believe they could. Some men of science like art more than others do, and some artists like science less than other artists do. Sir Norman Lockyer, for instance, was a great lover of art; but Sir Norman's science had to do with the sun, and the colour the sunlight produced; and consequently he loved art, for, as a friend of his said, "as the sun colours flowers, so art colours life." The art which has most to do with science is the art which the Institute represents. No building has a right to be called a building if it is not scientifically constructed and also a work of art. Once his old friend Sir William Siemens, speaking about art and science in antiquity, expressed his astonishment that the most perfect form of Greek column had the most perfect scientific bearing power, and he wondered if the Greek artists had arrived at the best bearing power by intuition or by science. He (Sir Lawrence) replied that perhaps it was not feeling only, but knowledge besides, for the ancient artists were much more advanced in science than is generally believed. While working as a student at Antwerp he asked permission to work for a while in the antique school, where the students drew from the antique statues. He made several drawings of a statue in outline and filled in all the muscles that his untrained eye could see. He then took the drawing

home and studied it with the aid of books on anatomy, and found out that there were many muscles he had overlooked, and when he brought his drawing before the statue again, he saw all the muscles he had not previously seen, and he came to the conclusion that it was as impossible for a Greek architect to erect a building without knowing everything about bearing power as it was for a sculptor to make a statue without perfect knowledge of anatomy. Science brings prosperity to a nation, and Art is the highest expression of a nation's prosperity.

The Hon. Sir SCHOMBERG McDONNELL, K.C.B., C.V.O., of H.M. Office of Works, proposed the toast of "The Royal Institute of British Architects and the Allied Societies." He said that unfortunately Mr. Harcourt was detained by his Parliamentary duties and was unable to be present with them, but he had asked him to express his deep regret that he was unable to accept their kind invitation. He (the speaker) felt great diffidence in approaching the subject of architecture if for no other reason than its antiquity. He supposed that as long as the human race had existed there had been some form of architecture. Some twenty years ago a man who was distinguished for his researches in Rome told him that the more he studied Rome the more convinced he was that the dome of St. Peter's owed its origin to early conical snow dwellings—he was a believer that architecture was coeval with the race of man. That had been surpassed by the disciple of the doctrine of evolution who declared that in the leaf structures erected by man to shield him from storms we found the germ of the splendid achievements which adorn the civilised world of the present day. It might be a truism, and it would no doubt appear so to them, to say that they could gauge the civilisation of any period of history by the architecture of the period. It was an extraordinarily fascinating subject, and one upon which, if he ventured to enlarge, he might detain them for a long time. There were few who would differ from him in saying that the reign of William IV. was not one which excited enthusiasm in our race as a whole, but that reign interested them to this extent, because it was in the last year of that reign that the Charter which gave the Institute its status and its driving force was first granted. It was impossible to exaggerate the influence that event had exercised upon our time. In the first place, he believed it had evoked an interest in architecture which did not exist before, or at any rate in the same shape in which it exists now, and he felt, when he saw the list of Allied Societies which looked to the Institute and the President as the titular head of this great profession, that they would never have had the local interest taken in architecture or archaeology had it not been for that Charter; and if they were to be judged by posterity by what had taken place during our lifetime, he believed they had no reason to fear the verdict, because it seemed to him that the greatest

architectural events of the last century, and those of the present, as far as we had gone in the present century, synchronise remarkably with the highest level of our civilisation. There was a matter Sir Aston Webb had touched upon to which he should like to refer briefly. Sir Aston alluded to the possibility or desirability of some greater control being given to the Institute over buildings which were being erected in this country, and more especially in London. He was entirely in accord with Sir Aston. He thought that all those who had seen what could take place in and around towns must welcome any system which—and this was a very strong point—by protecting the rights of private property, or by abstaining from infringing them, would enable the Institute, in combination with other bodies, such as the London County Council and others, to exercise a control which could only make for good, and which would prevent the disfigurement that was so marked a feature in some instances at the present time. Of course, he was aware that this was a Utopian idea, but one could never get anything Utopian unless they worked for Utopia. He should like to see such tremendous powers—he was speaking in a private, not an official, capacity—conferred upon some body yet to be created to enable them to treat hideous buildings much as surgeons treated appendicitis, and which could be removed by equally drastic treatment. The present was a golden opportunity for him to make acknowledgment which he had long wished to make to the Institute for the extraordinary kindness which they had shown to the department to which he had the honour to belong. It was an extraordinary fact that that harmony existed. They turned repeatedly to the Institute for advice and support on such subjects as reinforced concrete, the preservation of ancient buildings, &c. They asked for advice, and they never asked in vain. That was a most happy state of affairs, and one which he hoped would long continue. He was anxious to express his personal gratitude and that of his chief for the help the Institute had given them in these matters. So long as the Institute was directed by the master hands which had directed it, and now did and would no doubt continue to do, there was no need to fear that their ship would continue the course taken for years past—i.e. of prosperity and progress—or that the Institute would fail to maintain the splendid traditions which had been handed down by British architects of the past. It was his privilege to associate with the toast the name of their President, Mr. Ernest George. That name stood for everything that was refined and good in English architecture.

THE PRESIDENT, in responding to the toast, said he came into office only that day, taking a chair that had been filled by distinguished men, who combined with their knowledge of art the power of oratory. Those who had thrust this honour upon him were well aware that for half a century he had

quietly done his work with enjoyment to himself, shirking all public duties and functions. Among their 2,250 members they had many kinds of architects, and he could at once fix on brothers of their craft whose special gifts were a power of speech and an imposing presence. Such should be the endowments of a President, the representative figure of an important body. In this gathering of themselves and their friends little need be said about the aims and methods of the Institute. It did what it could for the improvement and beautifying of our workaday world, as well as for the welfare and the friendly relations of its members. The education of future architects was among the most important duties of the guild. An effort had been made to bring the various schools to a common system of training, and this had been generally accepted by the Architectural Association, the Universities, and other teaching bodies. The liberal prizes that were offered for the competition of students had called forth much enthusiasm and technical skill, and sometimes originality in design; but with their prizemen there was often misdirection of effort in the after work. Through the courtesy of the French Government they were to enjoy the loan of a splendid set of drawings made by M. Hulot, as "Prix de Rome" student, of the "Restoration of Silenus." These for a fortnight would be on the walls of the Royal Water-Colour Society's Gallery, Pall Mall, and they would show to them what might be accomplished by earnest study and indomitable effort concentrated upon a given subject. Our clever young prizeman too often went forth to sketch in a desultory way for want of a guiding influence. They would have him wrestle with some chosen subject, and his work might be a valuable contribution to his historical knowledge. In time they might have their School of Rome, or its equivalent. They were applying now for a supplement to the Royal Charter, with the object of broadening the basis of representation within the Institute of all *bona-fide* architects, and making further provision for education. An architect in practice was perhaps ill-fitted to judge the position of architecture of his own day. He (the speaker) believed that the art was in a healthy state; that it was making advance; that the essentials were better understood than they were, and that a high standard was attained by those who were doing their best work—work from which might be gained the pleasure and inspiration that should result from fine architecture. Yet how many a good building in London suffered for lack of proper placing and spacing, the importance of which had never been duly regarded here. The recent Congress had just brought many of them together in Vienna, the modern half of which city was the creation of the last several years. Its palace, Parliament House, picture galleries, Rathaus, and theatre were grouped to form one composition, the symmetrical scheme being completed with arcades,

colonnades, fountains, and sculpture. This fine conception showed how architecture was intended to impress, for the humblest citizen must feel the dignity of moving among such surroundings. Looking on this group of buildings, complete with sculpture, painting, and decoration, they asked, How were these things accomplished? Were these people so many times wealthier than Londoners? He feared it was that their ideal was higher than our own. They cared more for what was beautiful, especially appreciating the influence of architecture. The British ideal was, first, comfort and convenience: our expenditure on motor-cars vastly exceeds that of Vienna. Our Marble Arch had been much discussed; it might have been rebuilt fifty yards further back and flanked with piers and secondary gates, remaining a comely entrance to our beautiful Park. It had, however, been robbed of the trees that sheltered it, and we now saw it left on the pavement like a lost soul, the motor-buses passing behind it, to their increased convenience. Fortunately, as the Mall developed, they realised the beauty of a space or place thoughtfully designed, with its fine gates and sculptured piers. When Sir Aston's colonnade had connected these, and when Mr. Brock had completed his fine monumental group, the Mall would be no mean approach to a King's palace. They would then want a fitting palace for a King. While the "Ring" at Vienna was in building our own South Kensington was being converted from its market gardens into a place for our museums and national monuments, these occupying their several streets, with houses intermixed. If with forethought the Albert Hall, the Imperial Institute, our fine museums, and other buildings had been laid out in due relation one to another, as part of a grand scheme, we should have now an impressive architectural quarter of the town. We had hitherto gone from hand to mouth, dealing with each incident as it occurred, instead of having a comprehensive plan in continual growth. It was a question whether a Minister of Fine Arts would be helpful, or an Advisory Board of Experts, or a Vigilance Committee, to anticipate the changes that must come with new streets, new bridges, and altered requirements. The Institute was deeply concerned in these matters, and had offered advice or opinion from time to time—sometimes with advantage and sometimes too late—upon Government or municipal undertakings. The Institute desired to be consulted, and would respond with the best it was able to give in the way of professional knowledge.

Mr. LEONARD STOKES, *Vice-President*, proposed the toast of "Our Guests." There were representatives, he said, of all the arts present that evening—painters, sculptors, and architects he hoped; and besides these there were many representatives of science, and, to combine the whole in three words, they had representatives of the London County Council. They were glad to see present those who were not architects strictly speaking, because their guests of to-day might be

their clients of a future occasion. As to the Right Hon. John Burns, it was their duty, and a pleasurable duty, to thank him for taking up this great question of town planning. It was a thankless task, but architects could heartily back him up. As to M. Daumet, they had conferred upon him one of their greatest honours; last night M. Daumet accepted that honour, and now he was one of themselves. They had representatives not only of English architecture, but also of American architecture. Anyone who was at the Vienna Congress and saw the fine show the American architects made at the magnificent exhibition the Vienna architects got together must have been struck by the splendid work American architects were doing at the present time, and not the least by Mr. Cass Gilbert, with whose name he had pleasure in coupling the toast.

Mr. CASS GILBERT [*Hon. Corr. M.*], President of the American Institute of Architects, in response, said it gave him great pleasure to reply. He realised that he had been asked to do so on behalf of his own Institute of Architects, so nearly allied to them in thought, in feeling, in historic precedent, and in sentiment. He did not expect to speak and had come unprepared to do so, but he desired to salute M. Daumet, and to say to him that in America they honoured his name. M. Daumet and the great men of his nation had been patrons of the art that they followed, and they had instructed their young men, and their seniors too, in the things that they loved, and had taught them to follow the great precedents of the past, and to look into the philosophy that should govern the future of their art. He was conscious of the fact that English architects knew little or cared little perhaps about what they might do in America in architecture, and yet he could say that they in America greatly cared what they might do in England. The names of English architects were individually known to American architects, and they looked to England naturally for the great precedents which had established the line of action, of equity, and of correct practice that they all loved to follow; but they looked to them because they had established the tradition of the great art that American architects followed. He could suggest a few thoughts only. American architects also in their intense and practical existence in the upbuilding of a continent had not lost sight of the ideal side of their art. To them their profession was none the less serious and their devotion to it none the less sincere from the fact that they must in a very short time lay the traditions of an art which should, for better or worse, endure for many generations. That they should make mistakes was inevitable; that they had made mistakes was perfectly true. He reflected that the seat of Government in America, Washington, was planned by a Frenchman; that the White House, which was their executive mansion, was designed by an Englishman—really an Irishman. Their traditions all

came from this side of the water, and it was only the necessities of the commercial side of their people that compelled them to build sky-scrapers to rise above the level of the earth in such a way. A year and a half ago Sir Aston Webb was amongst them, and they received him with the greatest pleasure, for they looked to him for precedents. Sir Aston told them his impressions of the sky-scrapers of New York, and it was still a matter of debate as to whether the statements he made were intended seriously. At that time his own office was located some fifteen stories above the street level, but now they had a building which had some forty-eight stories. In the ideal side of life, in the ideal side of their art, they might in America perhaps be guided by the expression of one of their poets—a poet whom Englishmen had honoured by placing his bust in their great temple, Westminster Abbey. Longfellow said, speaking of poets—and it applied with equal aptness to architects, who, in their way, were poets in stone and brick and what not—that their honour lay, not, as he expressed it, in the glamour of the crowded street, not in the towns and in the busy throng, but in themselves. No pessimist was ever an artist, and by that great optimism that swells ever in the heart of the creative artist they would go forward into the larger life of the ideal. They would join in art the great painters, the great sculptors, the great poets, the great musicians in the march of civilisation towards the highest thought, towards the more noble conception of civilisation. He desired to drink to the toast of that great body which had done so much in that direction—viz. the Royal Institute of British Architects, and its President. Mr. Ernest George had been known to them in America for many years by his beautiful drawings and his executed designs, and by the impulse he had given to a very personal art and by a charm which none of them perhaps could achieve, and he congratulated the Institute upon its choice of him as President.

THE PRESIDENT having briefly replied, the proceedings terminated.

#### An Egyptian Appointment for an Architect.

The Ministry of Education, Cairo, Egypt, invite applications for the position of Assistant in the Department of Agriculture and Technical Education, Cairo, who will be classed as and have the title of Inspector. The conditions state that "it is desired to obtain for the position the services of a well-educated gentleman of from thirty to thirty-five years of age whose training has been both technical (in a university or technical college) and practical in architecture and building subjects. It is essential that the inspector should have had some experience in teaching and of administrative educational work. The salary offered is £500 for each of the first two years, after which, if the services of the inspector are satisfactory and the

appointment is confirmed, he will be eligible for promotion to a higher grade of salary."

The conditions of the appointment may be seen on application to the Secretary R.I.B.A., at the offices of the Institute.

If posted in London not later than 6th July, applications for the appointment may be addressed and posted direct to Sidney H. Wells, Esq., Director-General, Department of Agriculture and Technical Education, Cairo.

The successful applicant would be required to enter upon his duties not later than 15th September.

#### Proposed New Science Museum.

In the House of Commons last week Sir W. Anson asked the President of the Board of Trade whether, having regard to the insufficiency of the present temporary buildings at South Kensington for the housing and display of the collections of scientific instruments and apparatus belonging to the Government, he would consider the advisability of erecting a suitable building for a science museum on the site of the existing temporary galleries.—Mr. Runciman, in reply, said he thought it would be eminently desirable that there should be a science museum properly housed in immediate proximity to the Imperial College of Science and Technology, and if the Commissioners of the 1851 Exhibition felt themselves in a position to co-operate he should be happy to bring the matter under the notice of the Chancellor of the Exchequer; but it was obvious that any step requiring the financial assistance of the Government could only be undertaken with due regard to the general calls upon the Exchequer.

#### Additional Law Courts.

In the House of Commons last Monday Mr. Alden asked the First Commissioner of Works if he could state whether it was intended to erect additional Courts on the open space to the west of the Law Courts, facing St. Clement Danes Church, Strand; whether he was aware that the destruction of this open space would mean a loss to Central London; and, if so, whether he would consider the possibility of finding some other site near by which would meet the needs of the case?—Mr. Harcourt replied in the affirmative to the first part of the question. He regretted that he was unable to adopt the suggestion that another site should be found near by. When the Law Courts were originally designed it was always contemplated that any extension of them would be on this ground, and he saw no reason to depart from that decision.

#### Historical Monuments in England.

In the House of Commons on Wednesday, Major Anstruther-Gray asked the Prime Minister whether he had received a memorial from the Society of Antiquaries of London asking for the appointment

of a Royal Commission on Historical Monuments in England, similar to those granted for Scotland and Wales; and whether he could now give any hope of a favourable reply.—Mr. Asquith said he had received several communications in the sense of the one referred to; and there seemed to be an equally strong case for appointing Commissions in regard to England and Wales as in regard to Scotland.

It should be mentioned that a memorial urging the appointment of the Royal Commission was addressed by the Council of the Institute to the Government some weeks ago.

#### Hunt v. Acton Urban District Council.

The appeal by the Acton Urban District Council against the verdict for £800 in favour of Mr. William G. Hunt has been dropped, the plaintiff agreeing to accept the defendants' offer of £400 and the taxed costs. Mr. Hunt, it should be mentioned, had been willing from the first to waive his strict rights and to settle on any reasonable terms, and a few weeks ago he offered to withdraw his action on payment of £250. The offer was refused, and the action going to trial, the plaintiff obtained judgment for £800, with costs. The Acton Council however, before giving notice of appeal, offered to accept judgment for £400 and costs instead of the £800 and costs if Mr. Hunt would agree. Being still desirous of an amicable settlement, and wishing to be spared the prolonged worry, anxiety, and loss of time consequent upon an appeal, Mr. Hunt accepted the offer. The case before Mr. Justice Lawrence will be found reported in the last number of the JOURNAL.

#### Cretan Exploration.

Mr. D. G. Hogarth gives some interesting particulars in *The Times* of a series of discoveries lately made at Knossos? The news from Dr. Evans, he says, is exceedingly good. He has been working all the season in the large house which lies to the west of the Palace, but which, unfortunately, is deeply buried under the *talus* of a hill. With great labour Dr. Evans has now reached the further limit of this building, and, on his way, has found much. A magnificent steatite vase in the shape of a bull's head, with inlay of cut shell about the nostrils, and with crystal eyeballs, the iris being painted on the back of the crystals, reveals to us a new technique. In another quarter, on the north, a great hoard of bronze implements and utensils, including a large tripod-cauldron in perfect preservation, will much increase our knowledge of the finer domestic apparatus of Minoan civilisation, hitherto judged mainly by the provincial implements, &c., found by Mrs. Hawes at Gournia. As Dr. Evans speaks of having unearthed a great number of early vases with these tools, there should be no difficulty in dating the latter, and thereby getting standard forms. On the south of

the Palace a range of buildings has been found at a lower level, largely buried under *débris* of the Palace itself. The latter included a mass of ivory fragments, the remains of carved caskets and of fresco paintings. Inside the south building itself, under a staircase, a small hoard of silver vessels has come to light—some bowls and a jug. These will be welcomed as first fruits of that work in precious metals which so greatly influenced the ceramic artists of the Middle Minoan periods, but which has generally disappeared. We hear too of fine vases of various kinds—e.g. one with papyrus-plant ornament in relief, and others in the best "Palace style." Work is also proceeding actively on the restoration of the royal apartments on the east of the Palace, and every effort is being made to get into the great dome tomb found last year, and to find other tombs. There is little chance of the demand for subscriptions to Knossos ceasing for some years to come. They are still wanted as much as ever, and Mr. George A. Macmillan will be as happy as ever to receive them.

#### Sir Caspar Purdon Clarke [F.R.S.] and the New York Metropolitan Art Museum.

Sir Caspar Purdon Clarke's recent investiture by the University of Montreal with the degree of D.C.L. may be regarded as an illustration of the success he has achieved since taking up his residence in New York as Director of its Metropolitan Art Museum nearly three years ago. The value of Sir Caspar's labours is becoming understood and appreciated far beyond the boundaries of New York. A correspondent of *The Times*, writing from New York, says:—

Sir Caspar may be said to have revolutionised the methods of the Metropolitan Art Exhibition, in the face of a good deal of opposition, due in part to the resentment excited in numerous quarters by the action of Mr. J. Pierpont Morgan and the other members of the Board of Trustees in bringing over from England an expert in museum administration, instead of selecting for the office any of the home talent at their disposal. He had also to overcome the prejudices and preconceived ideas of certain of the trustees and of the staff of the museum with regard to its management, and at the same time avert the excitement of any animosity of a nature to affect injuriously the welfare of the institution confided to his care. By applying to this difficult task all those methods which he had learnt as the most able of the lieutenants of the late Sir Philip Cunliffe-Owen, he has in the space of less than three years been able to popularise the Metropolitan Art Museum in a marked degree.

Formerly conducted on more or less academic lines, it has now developed into one of the most popular resorts of the city. Its once empty galleries are now crowded with visitors, who are largely recruited from the artisan element. That Sir Caspar Purdon Clarke's appeals to the latter have borne fruit is shown not only by the numbers of people of that class passing through the turnstiles, especially on public holidays, but also by the frequent tributes to be found in the trade papers of such industrial centres as Trenton, Paterson, Rochester, &c., as to the value to the manufacturing interests afforded by thus training the eye of the worker, and imbuing his mind with new ideas on the subject of art

applied to industry. The establishment of the South Kensington Museum, by the art training which it has given to the artisan masses, has had the effect of greatly developing in England the taste for industrial art objects, such as furniture, ironwork, pottery, textiles, and decorators' supplies, and in creating a vast domestic industry in these things. That which the late Prince Consort initiated and the late Sir Henry Cole, Sir Philip Cunliffe-Owen, and Sir Caspar Pardon Clarke accomplished at South Kensington in this way, Sir Caspar is now by common consent of the trades and industries of this country effecting for the United States at the Metropolitan Art Museum. It is developing from a mere local into a great national institution, attracting not merely art lovers, but manufacturers, designers, and even artisans, from all parts of America.

While remaining an Englishman to the core, and declining to lend an ear to all suggestions to surrender his English citizenship, Sir Caspar has devoted much of his energy to the encouragement of the work of American artists, which people here, especially the rich, have been in the habit of discountenancing in favour of foreign art productions, of often doubtful origin.

### Church Building.

The Incorporated Church Building Society celebrated its ninetieth anniversary on the 21st May, when a meeting was held, presided over by the Bishop of Oxford. The following address was delivered by Mr. W. M. Fawcett, F.S.A. [F.] :—

It is with great pleasure that I have accepted the invitation of your Committee to read a Paper at your Annual Meeting. Now that the Society has attained the age of ninety years, it seems opportune to refer to its founders and their labours. The times were far from propitious for such an undertaking, and though Mr. Bowdler and his coadjutors, Mr. Davis, Mr. Park, and Mr. Turner, began the work in 1814, they only succeeded in founding the Society in 1818. The country was just emerging from the long and wearisome Napoleonic wars, and there were many calls from wounded soldiers, widows, and orphans who had claims on the charity of the few who had means to alleviate the great distress that existed. The attempt to found this Society at such a time was indeed bold, and it must have sprung from the hearts of those who felt that to provide means for the true worship of God was a suitable thankoffering for the blessing of peace. The neglect for many long years in giving opportunities for public worship made the question a very urgent one, but it was only after a struggle of four years that the Society was at last founded.

Its object was to give assistance for providing church accommodation in populous places, and it proposed to help to make more suitable that accommodation which still existed in some fashion after the ruthless hands of the seventeenth and eighteenth centuries had made churches anything but what they should be. In accordance with these proposals the Society made grants according to its means when schemes that seemed to be laid down on good lines were presented to it. This brings me to the time when the Committee of the Society resolved not to keep the whole responsibility of deciding upon schemes in their own hands, but to ask the assistance of a number of leading architects. Such names as Thomas H. Wyatt, Anthony Salvin, Benjamin Ferrey, Sir George Gilbert Scott, George Edmund Street, not to mention many others, were a guarantee to the public that the money

subscribed was not thrown away on unsuitable buildings.

In order to bring home to you the position of the Church then (and to some extent now) it will be well to imagine a clergyman settled down in a new district cut out of a large parish, and finding his first duty to be the raising of money to build a church, and possibly not only a church but schools and school-house. It must be understood that the value of a grant from this Society is far beyond the mere amount of the money granted. Such a recognition gives a backbone to the whole appeal, and the public knows that when the case meets with the approval of this Society there is not only the need for assistance but also a guarantee that the money raised will be properly spent. It is well known that all the plans are submitted to the Committee of Architects, who are selected as men who know how ecclesiastical work should be carried out. The three main points they have to consider are the design, the construction, and the arrangements.

With respect to design, it is generally felt that there is a distinct line between the designs for secular and ecclesiastical work. I remember a great writer some years ago making a somewhat arbitrary distinction between Classic and Gothic architecture. Now, without entirely agreeing with his view as it was set out, I feel it to have some truth in it if, for the terms Classic and Gothic, we substitute Secular and Sacred. When we look at the grand old buildings of Greece or Rome or at many of more recent date, including the massive works that have been carried out by engineers, the impression made in the mind is that of the greatness of *Man*—and I cannot but feel that to a certain extent this is a legitimate feeling. So long as the power and goodness of God Who made man great is acknowledged there is no reason why man should not see with pride the greatness of the things God has allowed him to do. If the false pride of Nebuchadnezzar saying, "Is not this great Babylon that I have built by the might of my power?" is avoided and a pure, humble pride, still feeling its dependence on its Creator, is expressed, it is, I say, a pride which may quite lawfully be indulged in.

But how different is the feeling of awe we experience on entering many of the great churches—a feeling which in all cases should be encouraged! Man there feels not his own greatness, though God has given it him, but with all humility he feels the greatness of God, and thanks Him that his frail, sinful mind and body have been permitted to do so much to bring the Creator more closely to the created, and, kneeling down, he says, "This is none other but the House of God; this is the gate of Heaven." That is the effect that all church building should have, and what we as architects should in all humility aim to produce.

I fear that very few of us are able to carry this out as we should like to do. With regard to the designs submitted, far too many show that the object has been to spend but little money rather than to secure a good building. When such a feeling is expressed in a design it seems to suggest how little need I render to the Lord for all His gifts to me. Do not think that I am pleading for mere ornament. A good building is not necessarily an expensive one. It is the bad building that is pretentious and is covered with meretricious ornament. Ornament of a simple and also of the richest kind is certainly suitable for church building if used with due subordination to the main masses. But where

much ornament is wished for, the grants from the Society are not needed. The main thing to look for as far as art and design are concerned is that the building on the face of it is suitable for its purpose.

With regard to construction, the points or details which the Architects' Committee have to report on are somewhat clearer to lay down. Your Society does not want its money to be wasted on buildings which can only last a few years, and therefore your architects draw up schedules of certain minimum strength of walls and beams, &c., which must be adhered to. There are points which no body of men sitting in a room in London can settle—such as the depths of foundation walls. These can only be settled by inspection on the spot. The building may be on a rock within a foot of the surface or it may be on soft, wet clay requiring ten or more feet in depth. Again, the practical carrying out of work can only be seen to as the work proceeds. So that your Architects' Committee can only report on the general construction as set out in the plans before them. The questions of thrusts of roofs, the abutments to arches, the weight on arches, and many other questions of the kind arise, and the conditions on which points may be criticised seem never to be the same. Some cases present a certain amount of difficulty, and your Committee, as far as my experience goes, never hesitates to go thoroughly into the questions before coming to a decision.

The third consideration which I mentioned above is that of accommodation, and this, it must be remembered, involves not only the counting of seats, but the arrangement generally, the position and character of seats, the approaches to them, and many other things. A point which everyone knows has to be considered in the re-seating of old churches is that the old high square pews cannot be considered seats suitable for common prayer in public worship. That is evident. Then again there was, and is, the question of arrangement in large churches for the approaches to the altar at the Holy Eucharist and a convenient return to the seats. Nothing can be more objectionable than arrangements which are liable to bring crowding and hustling on such occasions, thus effectually disturbing the feelings of devotion the whole service is designed to maintain. I mention this merely as one among many things, for it is a problem which can be solved more or less effectually in many ways, and it is necessary to be clear that the scheme proposed will, with due care, carry out the intention. There are also the arrangements at the altar for the clergy—that they should be able to carry out their high office with reasonable comfort, so that their thoughts are not carried away by petty inconveniences.

I need not enter further into the details of these features; but I may say that your architects look closely into matters of small detail—even the character of seats, that they may be fairly comfortable, but not lend themselves to be mere lounges. In some respects the opinions among us have not been quite unanimous. For instance, the question of the best position of the book-board was settled by the majority to be on a level with the seat, it being supposed that such a position gives a little more room. My own feeling is that it should be at such a level that the book upon it could be comfortably read by anyone kneeling down; but the majority carried it to recommend the lower level, but only made it compulsory for seats of less than 3 feet from back to back. My opinion is that 3 feet should

be a minimum, but the majority agreed to a slight relaxation of that width.

There is in some cases a strong wish to get as many people into as small a space as possible, and it is to meet urgent cases that your Committee have allowed 2 feet 10½ inches as the minimum width. These figures are too technical really to be brought before a meeting like this, but if you have been able in any way to follow them you will see that your Committee are really considering everything as fully as they can, and that many of the questions cannot be settled without a good deal of consideration and care.

In conclusion, I should like to give a word of advice to the clergy. I know the difficulty that faces a man when he begins to collect a large sum for the building of a church. I know the many times he must be disheartened by the want of sympathy where he was most expecting it. But whatever his difficulties, whatever the want of encouragement and sympathy, I do urge that he should not let himself be driven to the expedient of trying to get a cheap building. Too many fall into that error, and some few seem to think it a credit to have built a church larger than another not far off and for less money. Let them remember that a grant from this Society is, as I said before, a real backbone to a subscription list; it brings a good deal more than the sum granted, for everyone feels that endeavours have been made that the building should be a credit to the parish where it is erected and to those who have nobly worked in raising funds for it. It is far better to do a part of the work and do it thoroughly than that a building dedicated to the service of God should carry the stamp of cheapness and meanness in every detail.

One further recommendation I would humbly give. When your scheme has once been settled and you begin to get in subscriptions, do not be afraid to divide your plans up into sections and carry out a part. I remember so well giving that advice to a friend now passed away; but no, he said he would not move in the work till he had the funds, and I remember his coming to me and saying, "I wish I had followed your advice, for I find now that I have not so much promised as I had five years ago." Some subscribers had written and said that they thought the thing had lapsed, and had given the money elsewhere. Some of the larger subscriptions had been lost through death, so that all his work had not increased his means. There is a feeling of want of earnestness when a matter is allowed to drift, and it is a feeling by which the public is very quickly affected.

#### Competition for the Reformation Memorial at Geneva.

Particulars of this competition were given in the JOURNAL for the 23rd May, and the full programme may be seen in the Institute Library. The promoters, at a meeting held on the 2nd June, added a new clause to the conditions, to the effect that the lowest premium will not be less than 2,000 francs, and that the promoters have liberty to acquire, with the consent of the authors, such of the unplaced designs as they may see fit at the maximum price of 2,000 francs for each design.

### DRY ROT IN TIMBER.

SOME notes on Dry Rot in Timber, by Mr. F. T. Baines-Hewitt, F.S.I., in the *Carpenter and Builder* of the 29th inst., may usefully supplement Mr. Paul Ogden's Report on the subject in the last number of the JOURNAL:—

Timber in balk and timber in log are both liable to dry rot, a fungus growth which attacks the timber under suitable conditions. Sapwood is more liable to attack, but even the best timber may fall under its ravages if it is in a damp and confined situation. Balk timber not properly ventilated in the timber yard or logs left lying in the forest are attacked by dry rot, especially the sapwood. Here lies one of the dangers, for such barks or logs are frequently converted and much timber is delivered to various jobs already infected.

Timber which is quite sound when going through the sawmill may contract dry rot during its voyage to this country, either from the ship or through being shipped wet and being subject to damp, warm, and stagnant air during the voyage. The worst specimens in a cargo may be covered by the fungus growth, which is white or greyish in colour, but in other cases the timber may only be marked with red spots. A test is to bore a gimlet or auger hole into the timber and the appearance of the dust so extracted together with a peculiar fusty odour will announce the presence of dry rot.

Not only is it necessary to be sure that infected timber is not put into the work, but care must be taken that timber most liable to infection is avoided. Wet timber, unseasoned timber, and sappy timber should not be used. It should also be constantly borne in mind that all timber should be surrounded by a thorough circulation of air, and steps should be taken to exclude damp.

Wooden ground floors are particularly liable to attack. The ground surface should be sealed with concrete, especially over a clay subsoil. A damp-proof course should be provided to the walls and the ends of joists should not be pinned in. Air bricks should be provided in the walls under the floor and on opposite sides, so that a through current of air may be obtained, and care should be taken that the air brick openings are not fouled by mortar droppings as the walls are built. I have seen air bricks completely blocked by the last joist on each side of a floor. The bricks should be fixed lower, or the joists made to run the other way.

In the absence of ventilation, and in the presence of damp, and particularly when the favourable conditions are increased by the proximity of stoves or kitchen range providing warmth, the germs of dry rot attack the timber, and become rooted in its surface, feeding upon and decomposing its fibres, and the gaseous products of decomposition which are given off but add to the favourable conditions. Dry rot once established spreads with great rapidity and is very difficult to get rid of, even when all decayed parts are removed and the conditions as to ventilation and dryness improved. In one or two cases which have come to my notice, a sound floor was eventually obtained by removing every vestige of timber and sweeping out the space beneath the floor, which was then coated in every part with hot lime-wash before fixing the new joists and flooring. The ventilation had been previously attended to, but before the drastic measures just mentioned the dry rot which destroyed the first badly ventilated floor immediately attacked the second floor which was laid down.

The ventilation of floors is not in all cases an easy matter, for many rooms exist which have on two of the four sides other rooms with concrete floors. In such instances, two air bricks in each of the remaining and adjoining sides may be fixed, and the air circulation, though not perfect, is usually adequate; but there is the instance, as in a row of cottages, where the front rooms have boarded floors and the kitchens behind them flagged or concrete floors. It is then only possible to fix two air bricks in one, the only, outer wall, and this is not by any means ideal ventilation.

In all doubtful cases it is a very wise precaution to use creosoted joists, or they may be coated with "Solignum." The latter may also be applied to the undersides of the boards with advantage.

The use of linoleum on all floors subject to dry rot much increases the difficulty; but, provided linoleum is laid on a floor without the edges being cemented down, and the floor is constructed of thoroughly sound material and the conditions of dryness and ventilation are perfect, there need be no fear of dry rot setting in. A floor composed of good materials but without ventilation and covered with an oilcloth, was in such a state that, within three years of laying, the legs of the furniture went through both the linoleum and the boards; the joists also were in a very unsafe state. In the case of another floor where some unseasoned timber was used with no ventilation at all, and linoleum was laid, dry rot was rampant in from six to twelve months.

### MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session 1907-08, held Monday, 22nd June 1908, at 8.15 p.m.—Present: Mr. Henry T. Hare, *Vice-President*, in the Chair, 46 Fellows (including sixteen members of the Council), 42 Associates (including three members of the Council), 4 Hon. Associates, 1 Hon. Corresponding Member, and numerous visitors—the Minutes of the General Meeting (Business), held 1st June 1908 (p. 483), were taken as read and signed as correct.

The following Fellows attending for the first time since their election were formally admitted by the Chairman: viz. Charles Henry Bourne Quennell, Frank Adams Smith, Arthur Frederick Usher.

The Chairman delivered an Address on the Presentation of the Royal Gold Medal, the gift of His Majesty the King, to M. Honoré Daubert (*Hon. Corr. M.*), *Membre de l'Institut de France*, and M. Daubert, having been duly invested with the Medal, replied in acknowledgment of the honour.

On the motion of Mr. John Slater (*F.*), seconded by Mr. Edwin T. Hall, *Vice-President*, the thanks of the Institute were voted by acclamation to Mr. Thomas E. Colclutt, the outgoing President, for his services to the Institute during his term of office.

The Chairman formally invested the new President, Mr. Ernest George, with the insignia of office, and Mr. George, having taken the chair and briefly expressed his acknowledgments for the reception accorded him, pronounced the business of the session at an end.

The formal part of the proceedings terminated at 9 p.m.

At the Business General Meeting of the Institute held 1st June the Secretary announced that, by a resolution of the Council pursuant to By-law 20, the following gentlemen had ceased to be Members of the Royal Institute: viz. Augustus Rovedino, of the Class of Fellows; and Arnott Woolroole, of the Class of Associates.



Selinonte. From a Drawing by M. Jean Hulot.

## SÉLINONTE, COLONIE DORIENNE EN SICILE.

ESSAI DE RESTAURATION D'UNE VILLE GRECQUE AU VI<sup>e</sup> ET AU V<sup>e</sup> SIÈCLES AV. J.-C., par JEAN HULOT, architecte, Grand Prix de Rome, Médaille d'Honneur au Salon de 1907.

CONFÉRENCE DE M. GUSTAVE FOUGÈRES, ancien membre de l'Ecole française d'Athènes, professeur à l'Université de Paris (Sorbonne).

Nous remercions bien vivement, M. Hulot et moi, l'Institut royal des architectes britanniques de son accueil cordial et de l'honneur qu'il nous fait. En organisant, pour l'exposition de l'œuvre de M. Hulot, une salle spéciale, l'Institut royal a témoigné, de la manière la plus flatteuse, son estime pour le talent de ce jeune artiste. En m'invitant moi-même, simple archéologue, à venir expliquer et commenter ici les dessins de l'architecte restaurateur de Selinonte, l'Institut royal s'est rendu compte qu'un travail de ce genre était aussi bien une œuvre de science qu'une œuvre d'art. C'est par la collaboration de l'architecte et de l'archéologue que sera élaborée la monographie des ruines de Selinonte que nous préparons actuellement.\*

Voici dans quelles circonstances M. Hulot fut amené à choisir Selinonte pour sujet de sa restauration.

Nos grands prix de Rome d'architecture, pensionnaires de l'Académie de France à Rome (Villa Médicis) doivent, d'après le règlement, consacrer leur quatrième année à un *envoi*, dont le sujet est la restauration d'un monument ou ensemble de monuments de l'antiquité classique, grecque ou romaine. Le but de ce travail est d'abord de familiariser les artistes avec les principes de l'art et de la construction antiques, en les obligeant à des relevés précis des ruines importantes et à des observations personnelles sur les maçonneries, matériaux, ordonnances et dispositifs classiques : c'est l'objet de l'*état actuel*, qui est obligatoire. Ensuite, sur ces données réelles, l'artiste doit dresser la *restauration* ou reconstitution des édifices, dans l'état où l'on peut se figurer qu'ils s'offraient aux yeux des anciens. C'est dans cette partie de sa tâche que l'artiste fait œuvre d'imagination, de goût et de science. Il va de soi que l'hypothèse s'ajoute dans ces reconstitutions à l'observation des réalités pour en compléter les lacunes, hypothèse parfois arbitraire quand les indications manquent soit dans les textes soit dans les ruines, mais aussi contenue dans la vraisemblance par la connaissance générale de l'art

\* Les dessins de M. Hulot, accompagnés d'un texte par M. Fougères, y seront reproduits en héliogravures. Quelques unes des planches sont actuellement exposées à

l'Exposition franco-anglaise (section française, groupe III, classe 13), par les soins de M. Charles Schmid, élèveur. Librairie générale de l'architecture et des arts décoratifs.

antique. Pour nos prix de Rome, la *restauration* est la première occasion vraiment importante qui leur soit offerte de déployer leurs qualités personnelles et de se faire connaître au public parisien. Un pareil travail ne s'exécute qu'une fois dans la vie d'un architecte, grâce aux facilités et aux loisirs que lui procure le séjour à Rome, où il s'imprègne librement de l'atmosphère antique. Par son caractère retrospectif et désintéressé, la restauration constitue une étude souvent très-laborieuse, mais très-attachante : elle est un rêve, une évocation du passé, une résurrection. C'est donc en partie une œuvre de poésie et d'histoire, dégagée de toute préoccupation utilitaire. Elle transporte la pensée de l'artiste dans un monde disparu qu'il essaie de faire revivre. Il est obligé de compulsier les textes, d'explorer et de soumettre à une analyse critique non seulement le terrain même des ruines qu'il se propose de reconstituer sur le papier, mais encore les principaux vestiges de l'antiquité, où il cherche des indications et des termes de comparaison. Ainsi se forme en lui l'éducation classique concrète qui le gardera des anachronismes, des contre-sens et des modernismes, en l'imprégnant de l'esprit de la beauté antique contemplée directement dans ses chefs d'œuvre.

Quand elle est bien comprise, la préparation d'une restauration est une tâche de longue haleine, mais féconde en enchantements. Elle impose des voyages dans les terres antiques, en Italie, en Sicile, en Grèce, même jusqu'en Asie. Pour nos prix de Rome ces pèlerinages aux lieux saints de l'art classique sont le charme de leur jeunesse. Ils vont d'Italie en Grèce, où l'École française d'archéologie leur offre l'hospitalité et des indications pour leurs recherches : ils visitent l'Acropole d'Athènes et les grands chantiers archéologiques d'où sont sorties tant de révélations pour l'architecte, à Eleusis, Delphes, Epidaure, Olympie, Délos, Mycènes, Tirynthe : aujourd'hui il faut ajouter à cette liste la fameuse Cnossos de Crète et le palais de Minos, d'où un savant anglais, le Dr. Arthur Evans, a exhumé tout un monde préhistorique, si original et si vivant que les hellénistes y voient actuellement la découverte la plus surprenante de l'archéologie classique, celle qui nous donne enfin la clef des origines de la civilisation grecque. Ils vont plus loin encore, en Asie, à Troie, à Pergame, à Ephèse, à Priène, à Hiérapolis, à Palmyre, à Bâalbeck. Ayant ainsi parcouru le cycle des vieilles civilisations, ils se débarrassent du préjugé d'école qui présente l'antiquité sous un aspect uniforme et immuable. Ils en suivent l'évolution dans ses manifestations successives et variées ; ils en rapportent le sentiment historique du changement et la vision splendide d'un monde glorieux jamais identique à lui-même.

On voit par là que si la restauration n'est pas une œuvre utilitaire, il s'en faut qu'elle soit inutile. Elle est pour l'architecte un moyen de culture générale, à la fois historique et plastique, une source d'impressions et d'émotions instructives. Quiconque a eu le privilège de contempler ces paysages d'Italie aux contours nobles et majestueux, ces paysages de Grèce si radieux par la lumière, par la claire ordonnance de leur structure et l'indicible beauté de leur coloration, comprendra les jouissances que retirent de cette contemplation un œil et une âme d'artiste, et par suite la vertu éducatrice qui en résulte pour l'esprit, ennobli, exalte, rechauffe par ces visions lumineuses et sereines. Dans ses ruines, majestueuses malgré leur mutilation, l'âme de l'antiquité se révèle, oblige l'esprit à penser, et l'élève au-dessus des préoccupations purement techniques du métier.

Il y a aussi dans ce commerce direct avec l'antiquité un bénéfice plus positif et d'une portée qui dépasse la personnalité de l'artiste pour s'étendre à nous tous. On a rendu l'antiquité responsable des maux de l'*académisme*, cet art d'école qui est la négation même de la vie, qui prétend substituer à l'observation de la réalité des préceptes et des règles de beauté canonique, valables pour tous les temps et pour tous les pays. Cet art factice a exercé ses ravages à une époque où l'antiquité véritable était encore mal connue et déformée par des théoriciens dédaigneux des réalités. L'*académisme* commence à la Renaissance, avec Vignole.

Mais le traite de Vignole n'est qu'un herbier monumental où tout apparaît desséché et flétri. Ce n'est plus dans Vignole qu'il faut étudier l'antiquité. C'est sur place, sur les monuments originaux, qu'il faut contempler ces types savoureux, librement éelos sur le sol de la Grèce comme des fleurs vigoureuses et vivantes. Au Parthénon, à l'Erechtheion, à Paestum on admire non plus la logique linéaire, froide et étriquée, mais l'efflorescence d'un art plein de sève, où la race et le sol affirment leur vitalité. Tant que les motifs et les ordres inventés par les Grecs auront cours parmi nous, par la force d'une tradition qui n'est pas près de disparaître, tant qu'ils continueront à constituer la majeure partie du décor matériel qui nous entoure, leur étude sera nécessaire. Qui donc contestera qu'il soit préférable d'aller les étudier, non pas dans les types dégénérés de la Renaissance, mais dans leur grâce originale et native ?

Cette question de l'éducation des architectes aux sources les plus pures de l'inspiration est plus vitale qu'on ne le croit. Elle intéresse directement non pas les seuls artistes, mais chacun de nous en particulier. Quiconque est destiné à circuler dans une rue ou à s'enfermer dans les murs d'un appartement, c'est à dire l'unanimité des gens civilisés qui ne vivent pas comme des Peaux-Rouges, dépend des architectes. L'architecte représente la puissance maîtresse de notre bonheur quotidien. Il dispose de notre sensibilité, comme un magnétiseur dispose d'un médium. Il peut à volonté exaspérer ou apaiser nos nerfs, suivant qu'il nous entoure d'un décor incohérent ou d'une vision harmonieuse. Il peut nous attrister par des bâtisses médiocres et moroses, irriter notre neurasthénie par ses conceptions tumultueuses et disgracieuses ; il peut au contraire nous distribuer la paix intérieure par la noblesse, la grâce et la gaieté du cadre de notre existence quotidienne. Puisque les constructeurs disposent ainsi de notre santé physique et morale, ils peuvent être bienfaisants ou malfaisants. Et puisque les secrets de l'architecture bienfaisante s'apprennent en partie à l'école de l'art antique, n'est-il pas juste d'encourager l'étude de cet art ?

Voilà pourquoi le règlement de notre Académie des Beaux Arts qui impose aux prix de Rome la restauration des monuments antiques est un règlement fort sage. La plupart des prix de Rome se sont acquittés de cette obligation avec succès. Pour eux, une bonne restauration exposée et médaillée au salon d'architecture a été le commencement de la gloire, tout au moins de la notoriété : c'est le *chef d'œuvre* qui les a consacrés *maîtres* en leur art. Si l'on craint que le goût de l'antique ne les empêche de s'adapter aux conceptions et aux nécessités de la vie moderne, les exemples suivants rassureront les inquiétudes. Parmi nos architectes, les plus novateurs sont précisément ceux dont les restaurations ont été les plus remarquables : preuve qu'ils ont bien compris les leçons de l'antiquité sans en subir l'esclavage. Baltard, architecte des Halles centrales, un précurseur dans la construction métallique, s'était signalé par une restauration du Théâtre de Pompée. Charles Garnier, auteur du Grand Opéra, avait débuté par la restauration du Temple d'Égine ; Nœud, architecte de la Sorbonne, avait exécuté une restauration de Délos ; Dutert, architecte de la Galerie des Machines, avait restauré le Forum romain et le Palais des Césars ; Girault et Deglane, architectes du Grand et du Petit Palais de l'Exposition de 1900, ont restauré l'un la Villa d'Hadrien, l'autre le Palatin ; Bernier, architecte de l'Opéra-Comique, avait restauré, d'après les belles feuilles anglaises de Newton, le mausolée d'Halicarnasse. Tous ces artistes ont appris à l'école de l'antiquité l'art de renouveler les vieilles formules et d'être de leur temps.

La collection de ces brillantes restaurations, publiée sous la direction de M. d'Espouy,\* comprend toutes les ruines importantes du monde latin et du monde grec. Dans ce beau répertoire de l'art antique la restauration de Sélinonte par M. Hulot vient de prendre la dernière place par la date, mais non par le mérite.

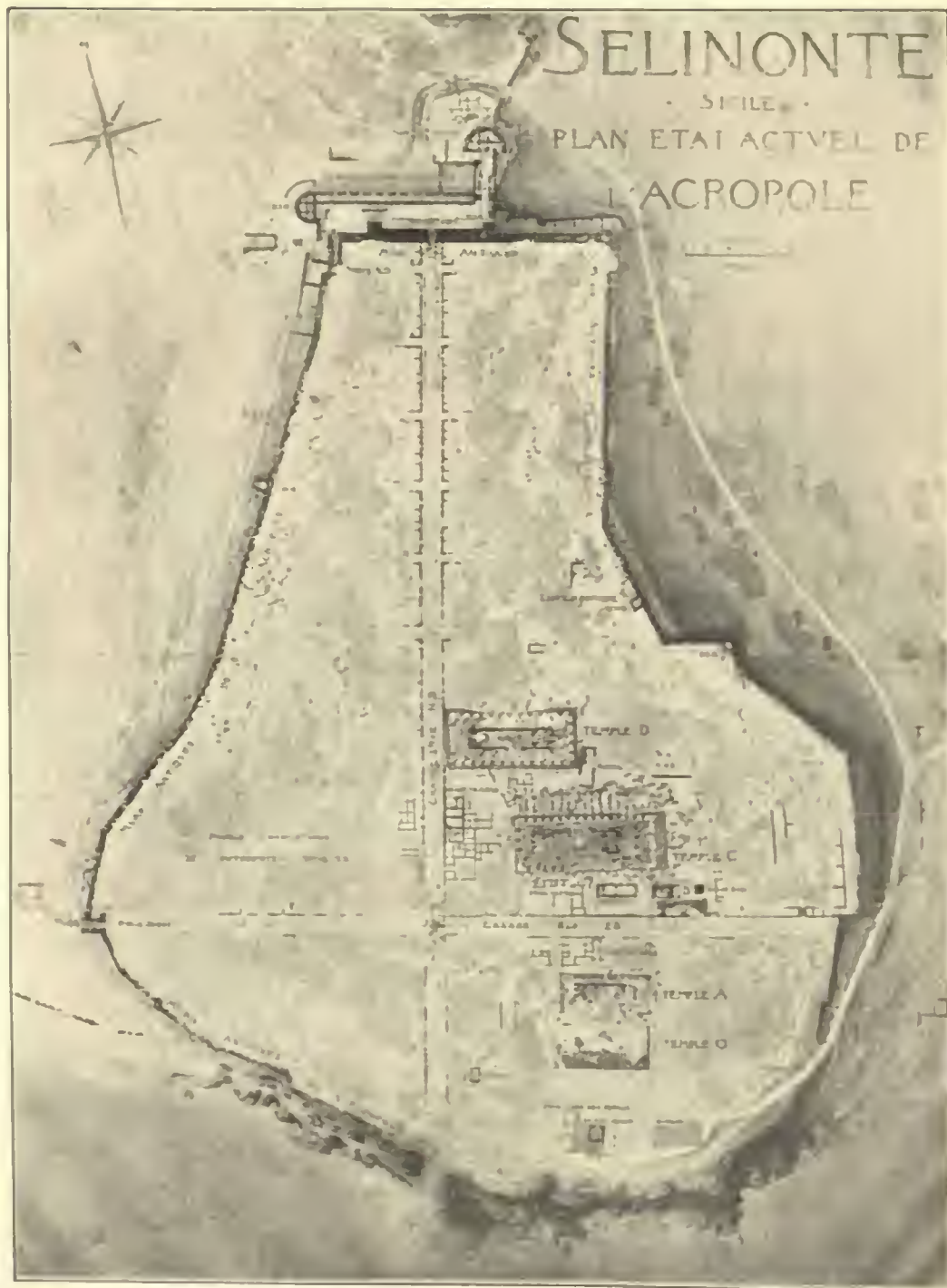
\* Exposée à l'exposition franco anglaise, par la Librairie générale de l'architecture (Voyez la note ci-dessus).



DUPRÉ ET RESTAURATION DE M. JEAN GUIZOT (1901).



SÉLINONTE: PLAN DE LA VILLE ET DE SES ABOUITS. RELEVÉ ET RESTAURATION DE M. JEAN HULOT (1906).



PLAN.—ÉTAT ACTUEL DE L'ACROPOLE. EXÉCUTÉ PAR M. JEAN HILLET (1901).



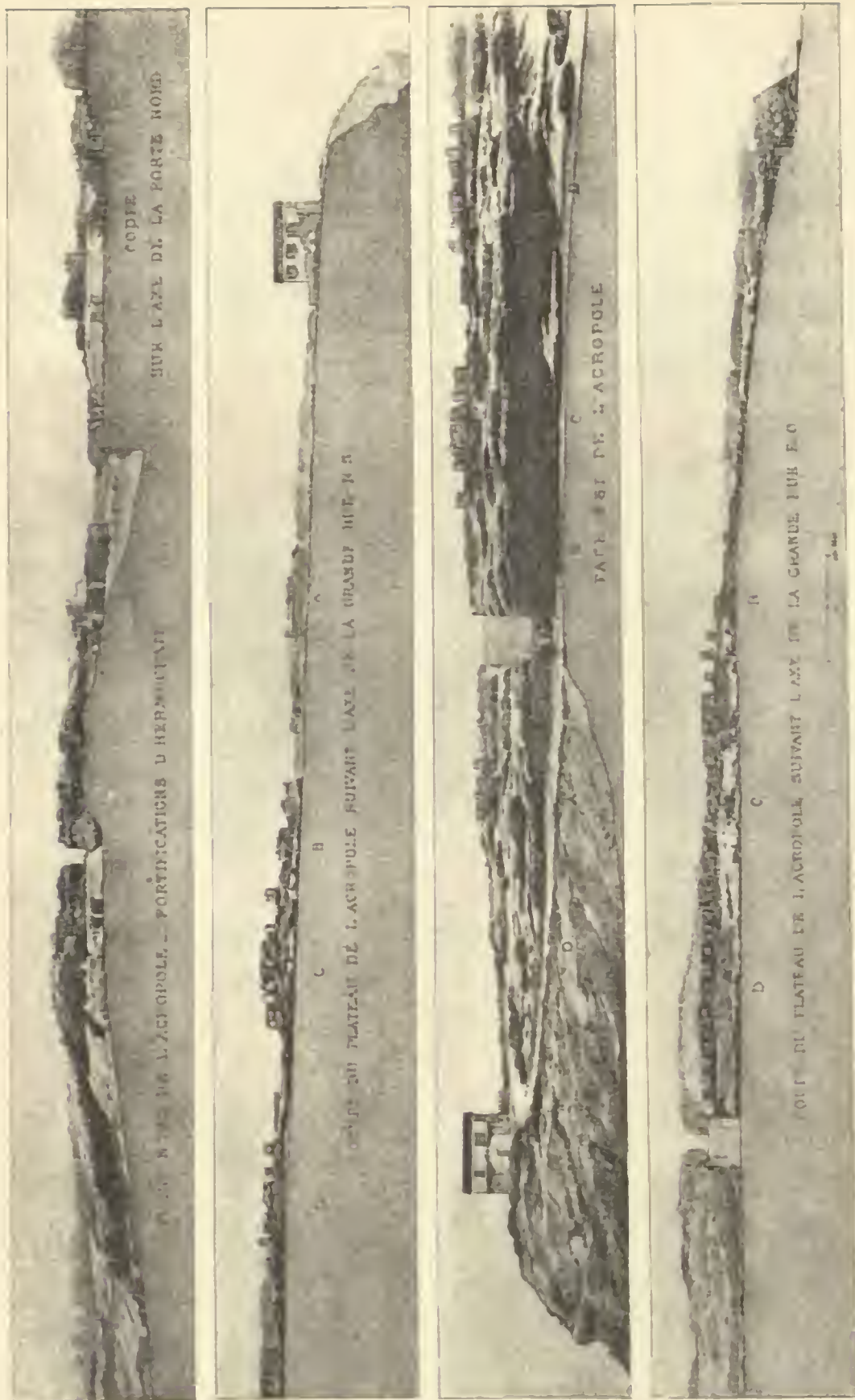
PLAN DE L'ACROPOLE-HELIOS ET RESTAURATION DE M. JEAN BULOT (1904).

Le choix de M. Hulot était limité par les œuvres de ses devanciers. Après avoir parcouru la Grèce et l'Asie-Mineure à la recherche d'un sujet inédit, il s'est arrêté aux ruines de Selinonte (Sicile), qui n'avaient pas encore fait l'objet d'une restauration d'ensemble. Il nous faut donc expliquer les raisons qui rendent ce choix particulièrement honneur et les qualités qui distinguent l'œuvre de M. Hulot.

Selinonte était une colonie grecque du Sud de la Sicile, fondée en 628 avant J.-C. par des Doriens de Mégara Hyblaea, ville située au Nord de Syracuse. L'histoire de Selinonte fut aussi courte que brillante. La ville ne vécut que deux siècles, sans cesse en guerre contre ses voisins de Segeste, mais soutenue par l'amitié des Carthaginois. Elle atteignit rapidement un très haut degré de prospérité, due sans doute à sa situation et à la fertilité de son territoire. Ses ports faisaient face à Carthage, dont ils n'étaient séparés que par un détroit de 450 kilomètres : les navires anciens, par bon vent, pouvaient le franchir en trois jours. Selinonte dut surtout s'enrichir par le commerce avec la Libye. Au moment de la guerre du Péloponnèse, en 413, elle était la troisième ville de la Sicile et ses temples regorgeaient de trésors. Ce fut sa querelle avec Ségeste qui fut la cause de l'expédition malheureuse des Athéniens en Sicile. Après leur déroute, Segeste fit appel aux Carthaginois. Ceux-ci, oubliant avec une foi toute punique leur ancienne amitié pour Selinonte, et tentés par ses richesses, vinrent l'assiéger. Ils s'en emparèrent après un siège cruel, dirigé par Annibal, fils de Giscon, la saccagèrent et la détruisirent en 409, sauf les temples. Peu de temps après, le Syracusain Hermocrate s'installa dans l'Acropole, dont il releva et compléta les fortifications, ou il refit une petite ville nouvelle, d'où il partait en expéditions dans l'intérieur. Ensuite, cette ville réduite à l'état de bourgade fit retour aux Carthaginois, vécut d'une vie médiocre jusqu'en 249 ; elle fut alors définitivement anéantie par ses maîtres et abandonnée. Au moyen-âge les Sarrasins et les Byzantins installèrent sur ses ruines un petit poste. Vers le X<sup>e</sup> ou le XI<sup>e</sup> s. un violent tremblement de terre renversa les restes des grands temples qui écrasèrent les cabanes du hameau byzantin.

Dès lors, le site resta inhabité. La solitude devint un maquis ; les ports se comblèrent. Les sables amoncelés en dunes et balayés par le sirocco recouvrirent jusqu'à la crête de l'Acropole et ensevelirent les ruines. Une luxuriante végétation de lentisques, d'absinthies, d'eanthes, de cactus et d'aloès envahit la place des maisons et des rues, ne laissant apparaître à l'état de chaos informes que les matériaux amoncelés des temples et des fortifications. Une faune de conleuvres noires, de vipères, de lézards pullulait dans toutes ces pierres, tandis qu'en bas les cours d'eau barrés par les dunes transformaient les vallées en marais pestilentiels, infestés par la malarie.

Tel était l'état où, en 1812-1823, deux architectes anglais, Harris et Angell, trouvèrent Selinonte. La révélation de ses ruines au monde savant est leur œuvre. Ils entreprirent les premières fouilles et découvrirent ces metopes archaïques en qui les archéologues voient les doyennes de la plastique grecque. Elles devinrent aussitôt célèbres ; elles sont la gloire du musée de Palerme. Mais cette belle trouvaille fut chèrement payée. Nous devons saluer en Harris un glorieux martyr de la science : le malheureux architecte mourut au champ d'honneur, tué par les fièvres paludéennes. Son exemple n'a pas découragé les chercheurs, mais il les a rendus plus prudents. Les explorations, aussitôt continuées par Hittorff et Zanth en 1824, ont été poursuivies depuis 1864 au nom du gouvernement italien par MM. Cavallari (1864-1883), Patricolo (1881-1891), et Salinas (1891 à nos jours). Grâce à ces fouilles méthodiques, les ruines de Selinonte sont devenues plus intelligibles. Le tracé de la ville avec ses rues et le plan des fortifications d'Hermocrate ont été dégagés. Les temples ont livré quelques metopes nouvelles ; des travaux de déblaiement et de consolidation ont un peu amélioré le chaos de leurs ruines.



in Edward Taylor

SELINONTE. I. COLONIE DORIENNE, EN SICILE. FIN DU V<sup>e</sup> S. AV. J. C.  
reliefs et restauration de Jean Hittler 1904

REDUCED FROM THE HELICONTAVUR PREPARATION FOR MM. HITTIER & FOUQUÈRE'S FORTHCOMING MONOGRAPH ON "SELINONTE,"  
By permission of the Publisher, Vm. CHARLES SCHMIDT, Paris.





· SÉLINONTE ·  
ASPECT GENERAL

Charles E. Brown

SÉLINONTE | COLONIE DOMINIQUE EN SICILE. FIN DU V<sup>e</sup> S. AV. J. C.

Aspect général du Port  
relevé et restauré par Jean Hulot (1904)

REDUCED FROM THE HELIOGRAPHURE PREPARED FOR MM. HULOT & FOURGÈRE'S PORTHOCOMINO MONOGRAPH ON "SÉLINONTE."  
By permission of the Publisher, Vve. CHARLES SCHMID, Paris.





Il reste néanmoins encore beaucoup à faire ; il faudrait déblayer tous les îlots de maisons dont on s'est borne à reconnaître l'alignement et les rues. Il faudrait aussi achever l'exploration des défenses avancées sur le front N.O. de l'Acropole. Tout cela demanderait du temps et de l'argent. Le gouvernement italien, qui a tant de fouilles à diriger, ayant fait la l'essentiel, est excusable de réserver cette tâche pour l'avenir.

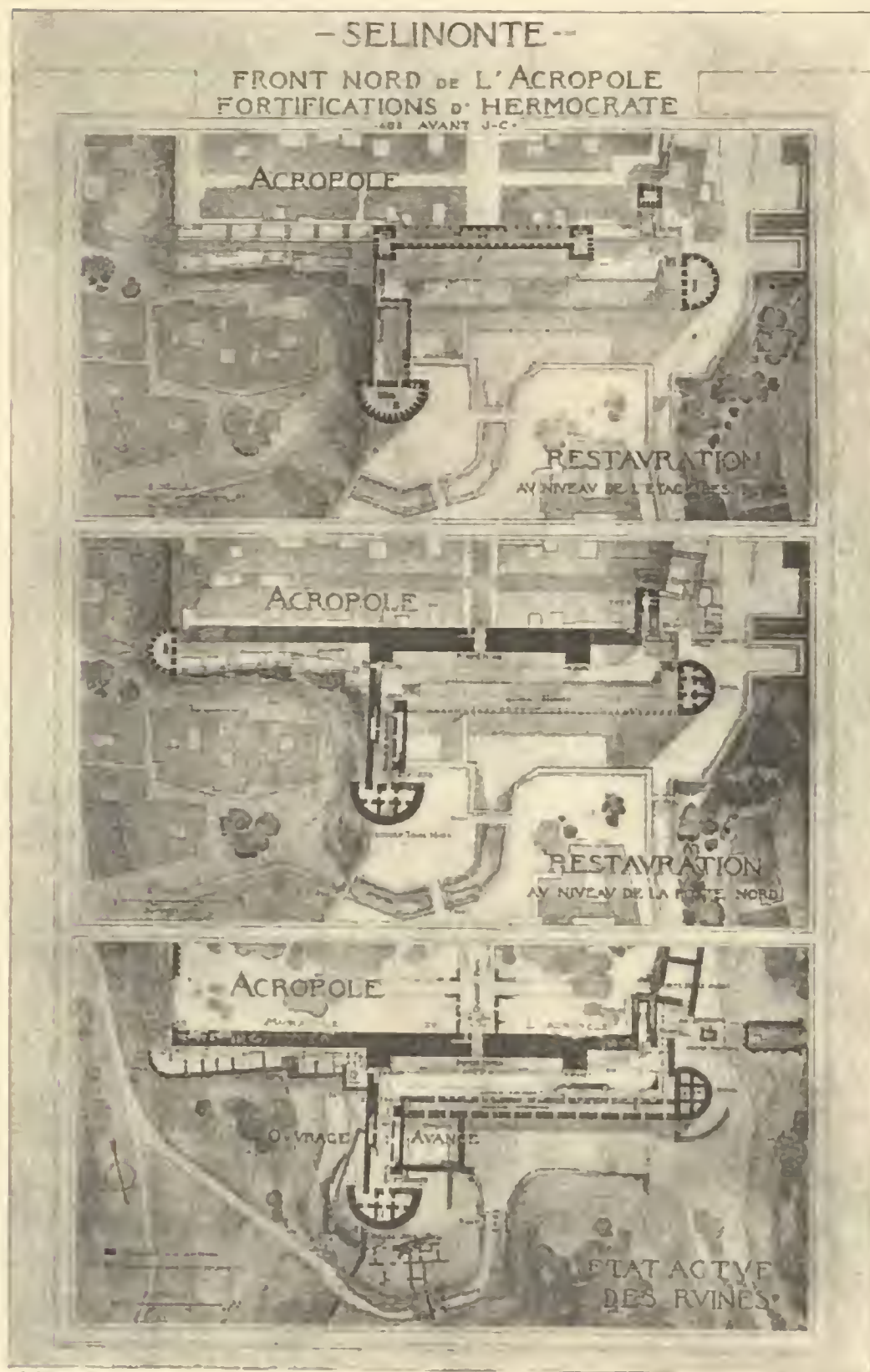
Quant aux temples, la plupart des touristes rêvaient de les voir relever. De fait, quand on contemple ces beaux alignements de colonnes, couchées par le tremblement de terre, avec leurs tambours encore en ordre, leurs chapiteaux et leurs entablements projetés sur le sol sans autre dérangement que la position horizontale substituée à la position verticale, on se laisse tenter par l'idée d'un redressement. On est hanté par la vision des colonnades encore debout d'Agrigente, de Ségeste, de Paestum. Mais est-ce là un idéal absolu ? Ces ruines couchées de Sélinonte impressionnent par le spectacle douloureux des grands cadavres de colonnes gisant à terre comme des Titans vaincus. Toute l'horreur du cataclysme revit dans ce désordre. D'ailleurs l'entreprise serait hasardeuse et ruineuse. On ferait sûrement œuvre plus utile, quoique plus modeste, en essayant de dégager de leurs matériaux les angles du grand temple d'Apollon, dont il est encore impossible de relever les dimensions exactes.

Les publications relatives à Sélinonte ne l'ont jusqu'ici étudiée que partiellement. Après Harris et Angell, Hittorff et Zanth ont publié des restaurations des temples très-intéressantes, mais souvent fantaisistes et tendancieuses. Hittorff était un apôtre très convaincu de la polychromie ; il en a fait de véritables débauches. Le beau livre de MM. Koldewey et Puchstein sur l'architecture grecque de l'Italie méridionale et de la Sicile nous donne des relevés vraiment scientifiques et minutieux des temples. Enfin les notices et rapports des archéologues italiens décrivent très-sommairement les ruines de la ville. Il restait à faire la synthèse de toutes ces données, à les réunir dans une œuvre d'ensemble qui fit revivre Sélinonte toute entière.

C'est cette tâche qui a séduit M. Hulot. Il l'a en partie réalisée dans sa restauration ; il la complètera dans la publication à laquelle il a bien voulu m'associer. Voici en quelques mots les éléments de son travail.

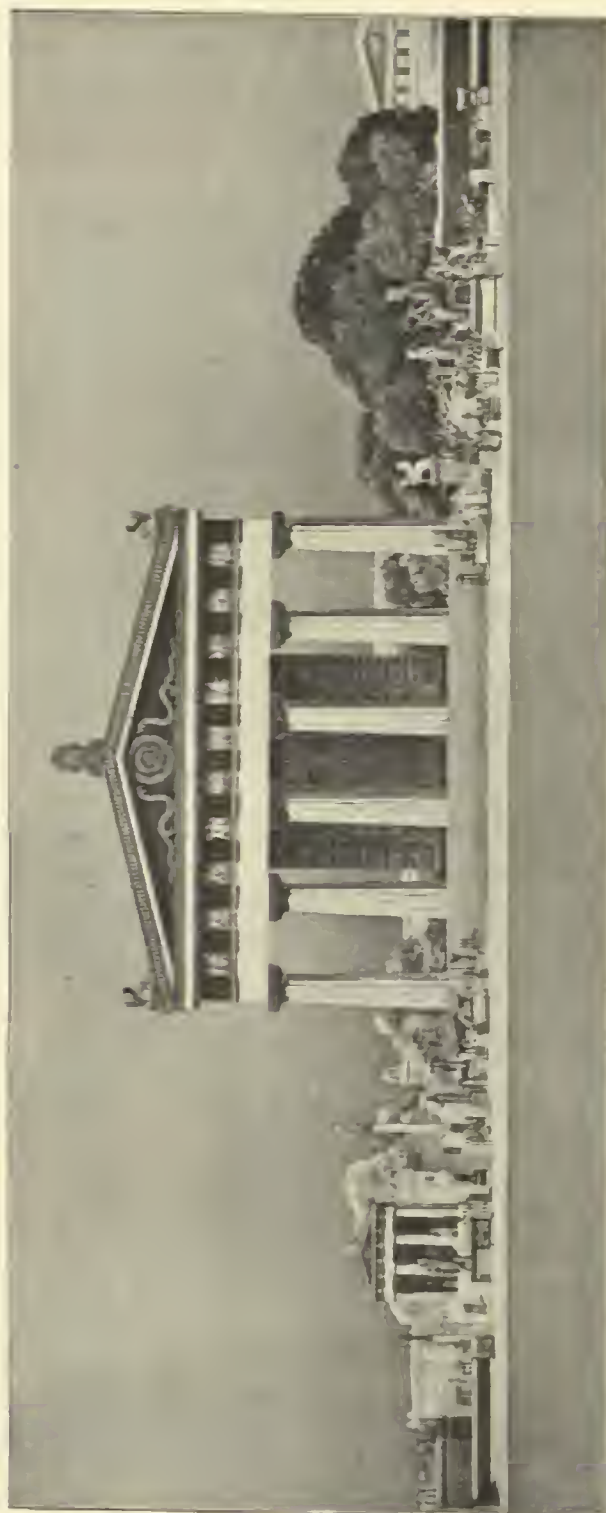
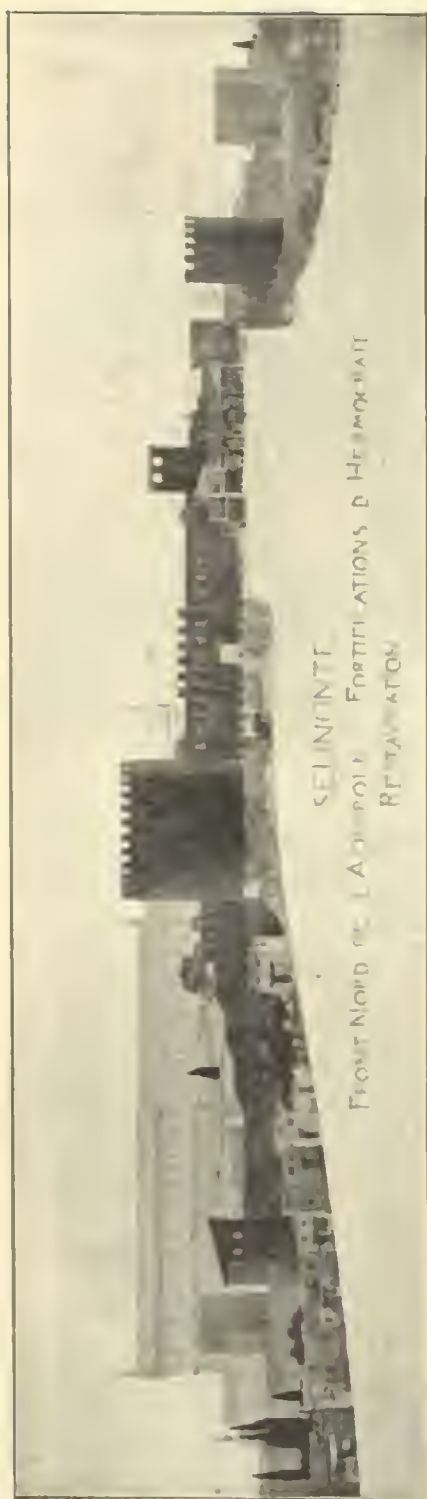
La position de Sélinonte est celle de beaucoup de colonies primitives : une presque escarpée, facile à défendre du côté de la terre, et encadrée de deux ports, l'un de commerce, l'autre militaire. La vieille ville occupa l'extrémité et le dos d'un chaînon rocheux haut de 40 mètres : à l'O. l'embouchure du *Sélinos* formait une rade ouverte avec une grève sablonneuse où les navires pouvaient être halés à sec ; à l'E. un autre cours d'eau, le Gorgo Cottone, creusait un bassin dont l'entrée, retrécie et protégée contre le sirocco par un môle, abritait les navires de guerre. L'Acropole ou ville primitive était entourée de murs ; ceux qui subsistent aujourd'hui, en appareil quadrangulaire, avec tours et bastions, sont ceux de la ville reconstituée par Hermocrate en 408. Les fortifications d'Hermocrate sont très-intéressantes ; elles comprennent des galeries à poternes pour les sorties, de grosses tours demi-rondes divisées en casemates pour le logement des catapultes, des passerelles à poternes sur une tranchée. Tout ce dispositif n'a son pareil dans aucune ville de Grèce, mais il rappelle les aménagements du fameux fort Eurycle à Syracuse dont il est presque contemporain et dont Hermocrate s'est sûrement inspiré. Tandis qu'à Syracuse les galeries et magasins sont creusés dans le roc, à Sélinonte tout est en maçonnerie à découvert.

La ville ainsi fortifiée était divisée en longueur par une grande rue rectiligne N.S. large de 7 m., et en largeur par 7 ou 8 rues transversales qui coupaient la précédente à angles droits et divisaient les maisons en îlots presque réguliers. Tout ce plan de ville américaine, que nous croyons pouvoir attribuer à Hermocrate, est du plus haut intérêt. C'est l'exemple le plus ancien que l'on connaisse de l'application, au tracé des villes, des principes géométriques de l'architecte Hippodamos de Milet, contemporain de Périclès, auteur des plans



SELINONTE. COLONIE DORIENNE EN SICILE FIN DU VI<sup>e</sup> S AV J.C.  
relevé et restauration de Jean Huot (1904)





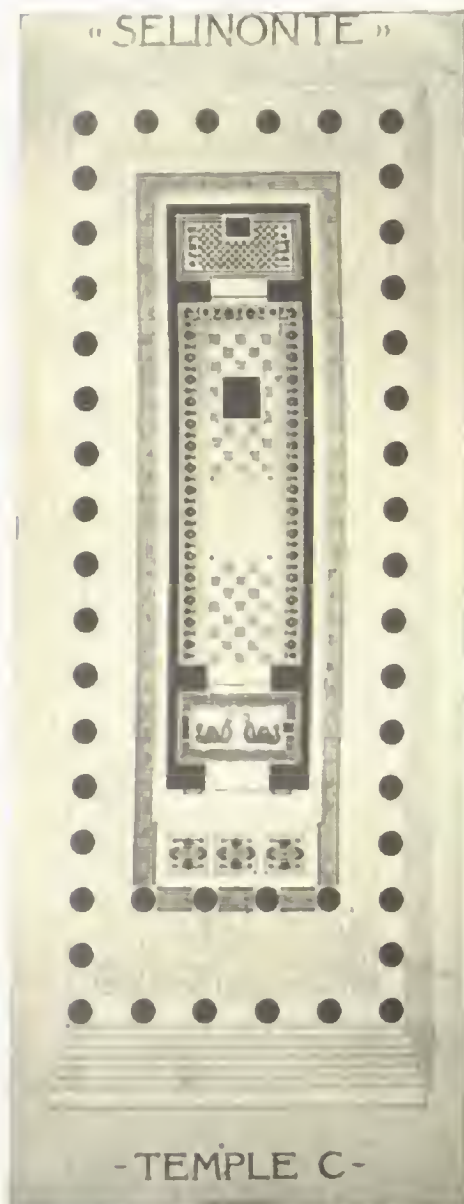
du Pirée, de Thourioi, de Rhodes. Hippodamos, qui était pythagoricien, fut l'Hausmann de la Grèce du V<sup>e</sup> s. avant J.-C. Fortement imbu de l'esprit idéaliste de son époque, il voulait substituer des conceptions claires, rationnelles et scientifiques aux caprices du hasard. Il ne voyait que des villes régulières et géométriques. Aux dédales des agglomérations tortueuses

lentement formées par le temps, il préférait ses schémas théoriques, où il voyait un triomphe de la raison ordonnatrice sur le désordre et l'arbitraire de la nature. Les Allemands ont retrouvé à Priène, en Asie-Mineure, un type de ville bâtie de toutes pièces suivant ces principes ; mais cet exemple tardif n'est que du III<sup>e</sup> s. av. J.-C. Celui de Selinonte, presque contemporain d'Hippodamos, mérite d'être considéré désormais comme classique.

Les maisons qui bordent ces rues sont également de la fin du V<sup>e</sup> s. Or, la maison grecque de cette époque ne nous est guère connue que par les restes médiocres d'une bourgade eubéenne, Dystos. Les villes grecques récemment examinées à Délos, à Théra, à Priène ne datent que des derniers siècles de l'hellénisme. Donc les maisons de Selinonte peuvent être considérées comme des types de l'habitation urbaine à l'époque classique. Elles sont d'une extrême simplicité et d'un modèle uniforme. Sur la rue, un mur de façade avec socle en gros appareil est percé de deux portes, une grande et une petite. De chaque côté du couloir d'entrée une boutique ouvre sur la rue et est isolée de l'intérieur, comme à Délos et à Pompéi. Le couloir aboutit à une petite cour intérieure, bordée d'un peristyle grossier et pourvue d'un puits. Tout autour du peristyle, des chambres exigües. C'est, en somme, déjà le type des petites maisons de Délos. Il n'y a là rien qui soit en rapport avec le luxe des temples de Selinonte ; mais on sait qu'à Athènes même la simplicité des habitations privées contrastait avec la splendeur des édifices publics. D'ailleurs à Selinonte cette parcimonie s'explique par des raisons historiques ; nous avons là non pas la grande Selinonte du VI<sup>e</sup> et du V<sup>e</sup> s., mais la bourgade lativement reconstituée en 408 par Hermocrate après la destruction de la ville par les Carthaginois. Quoi qu'il en soit, il faut désirer le déblaiement complet au moins d'un îlot ; on aurait là une Pompéi grecque de la fin du V<sup>e</sup> s. avant J.-C.

Cette acropole longue de 400 m., large de 150 à

300 m., ne pouvait guère contenir que 4000 à 5000 habitants. Cette agglomération insignifiante ne répond guère à la grandeur de la ville dont Thucydide atteste la puissance et la richesse, confirmées par le luxe, l'énormité et le nombre des édifices sacrés qu'elle devait à grands frais au VI<sup>e</sup> et au V<sup>e</sup> s. On doit donc admettre qu'en dehors de l'acropole s'étendait



LEVÉE ET RESTAURATION DE M. JEAN BULOY, 1904.



FAÇADE EST—RESTAURATION.



FAÇADE SUD—RESTAURATION.

ESSAI DE RECONSTITUTION D'UNE CITE ANTIQUE, "SÉLINONTE," COLONIE DORIENNE EN SICILE, FIN DU V<sup>e</sup> SIECLE AVANT J.-C.—M. JEAN HULOT, ARCHITECTE.

REDUCED FROM THE HELIOGRAPHIES PREPARED FOR MM. HULOT & FOUGÈRES FORTHCOMING MONOGRAPH ON "SÉLINONTE."  
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une ville extérieure beaucoup plus spacieuse, comme la ville de Syracuse en dehors du noyau primitif d'Ortygie. Il y a au nord de l'acropole un vaste plateau où cette ville pouvait s'étaler ; mais les Carthaginois n'en ont rien laissé.

Restent les temples qui sont la gloire de Sélinonte. Leurs ruines colossales font encore l'étonnement des touristes. On en compte aujourd'hui onze, repartis en trois groupes : dans l'Acropole, six temples des divinités protectrices de la ville ; sur une colline à l'Orient, trois temples consacrés à des divinités lumineuses, dont Apollon et Héra ; dans le flanc d'une autre colline, à l'occident, le sanctuaire avec deux temples de la déesse infernale Déméter, dont la situation au couchant semble une reminiscence des cultes infernaux de l'Égypte.

Plusieurs de ces édifices étaient des géants. L'un d'eux, le temple d'Apollon, long de 120 m., est un vrai monstre, attestant chez les Sélinontains un orgueil exalté jusqu'à la folie, un délire de pierre sans exemple en Grèce. Le colosse inachevé n'est plus qu'une montagne informe d'immenses débris, recouverts de mousses, et de parietaires. On oublie dans ce chaos qu'on est en présence d'une œuvre humaine ; on se croit au milieu d'un éboulis de rochers naturels. Les plus anciens de ces temples avec leurs chapiteaux aplatis, leurs colonnes trapues, leurs rudes matériaux de tuf revêtu de stuc polychromé sont autant de monuments de l'énergie doricienne. L'archaïsme dorien a exprimé dans ces bâtisses, comme dans les sculptures frustes des metopes, l'héroïque naïveté de sa foi patriotique et religieuse et l'étonnante vitalité de cet avant-poste de l'hellénisme en occident : la colonie, près de cent ans après son installation, pouvait déjà prélever au profit des dieux cette énorme dime sur ses richesses.

Telle est la ville que M. Hulot a voulu faire revivre en sa splendeur. Sa restauration n'est pas une œuvre de froide géométrie architecturale : il l'a voulue pittoresque et animée autant qu'exacte et vraisemblable, et ce souci n'est pas le moindre charme de sa composition. C'est un véritable tableau panoramique où la sévérité linéaire est égayée par une note spirituelle, par des détails d'une réalité ingénieuse.

L'artiste a saisi la ville à son réveil. C'est l'heure matinale de l'Aurore "aux doigts de rose." La rougeur du jour naissant a déjà coloré le ciel et teinté de sa clarté le phare encore fumant, les frontons des temples et les tours des remparts. Les colonnades lumineuses, aériennes sur leurs soubassements massifs, rayonnent dans la fraîcheur sereine de l'air pur. Un recueillement divin tient encore ensommeillée la haute cité aristocratique et sacrée. Mais en bas, au pied des remparts, le faubourg maritime et le port s'animent déjà pour le labeur du jour : un fardier pesant monte lourdement la rampe qui conduit du quai à la haute ville ; dans les docks des esclaves remuent les marchandises ; les navires ouvrent pour l'appareillage leurs voiles brunes à la brise matinale. Déjà même une svelte trière file de toute la vitesse de ses rames agiles sur l'eau bleue engourdie par la nuit. Elle part, chargée d'espoirs, emportée par sa voile gonflée vers les pays d'aventures et de conquêtes, là-bas, bien loin,

Au bord mystérieux du monde occidental.

Paris, 6 juillet 1908.

[The Institute is indebted to the courtesy of Mme. Schmid, principal of the well-known publishing house V. Charles Schmid of Paris, for the loan of some of the blocks illustrating M. Hulot's work in these pages ; also for generously presenting for reproduction in the JOURNAL copies of heliogravures of M. Hulot's drawings. These heliogravures, it should be mentioned, are advance proofs of plates prepared for MM. Hulot and Fougères' monograph on the ruins of Selinus, which will shortly be issued by Mme. Schmid's firm. The "ink-photo" reproductions here given are reduced to less than half the scale (linear) of the original plates, and necessarily lack the fine quality which distinguishes the costly process of heliogravure.—ED.]

## M. HULOT'S GRAND PRIX DE ROME DRAWINGS AND RESTORATION OF SELINUS.

PROCEEDINGS AT THE PRIVATE VIEW.—M. Fougères' Paper (Translation).

**B**Y the courtesy of the French Ministry of Fine Arts and of M. Jean Hulot, the Council of the Institute have had the privilege of exhibiting in London the magnificent series of drawings, representing a restoration of the ancient fortified port of Selinus, done by M. Hulot as "Grand Prix de Rome 1904," together with a number of exceptionally fine water-colour drawings by the same artist depicting interiors of the Capella Palatina, Palermo, the Cathedrals of Cefalù and Monreale, and other buildings. The gallery of the Royal Society of Painters in Water-Colours was hired by the Council for the exhibition, and the drawings were hung under the direction of Mr. John W. Simpson, *Vice-President*, who had conducted the correspondence with M. Hulot and the French Government, and arranged for and translated the Paper on Selinus kindly contributed for the occasion by the distinguished French *savant*, M. Gustave Fougères.

The formal opening of the exhibition took place in the afternoon of Monday, 18th July, when a large company, including several ladies, assembled by invitation of the President and Council to view the drawings and to do honour to their gifted author, who was present in person, having crossed the Channel expressly to take part in the opening ceremony. M. Fougères was also present, and copies of the text of his Paper as printed in the opening pages of this number were handed to visitors as they entered the gallery. The company having inspected the drawings at their leisure, the proceedings took the form of a general meeting, the President, Mr. Ernest George, taking the chair, with M. Hulot seated on his right, and M. Fougères on his left.

The President, after a few words of welcome to the distinguished Frenchmen who were honouring the Institute by their presence among them that day, went on to express his gratification that the Institute should have so unique an opportunity of demonstrating to their students the methods and achievements of French prize-men in architecture. He concluded by asking Mr. Simpson to read the translation he had prepared of M. Fougères' Paper.

Mr. Simpson, in a few preliminary remarks, said: My friend Professor Fougères, who is as modest as he is learned, prefers to remain silent in English, and has asked me to make, and read, for him a translation of his delightful Paper on M. Hulot's drawings. He will, however, give us the pleasure of hearing a few words from him in his own tongue afterwards. I accede to his request, while deprecating your criticism. You have

this text before you in the elegant language in which it was written; and I beg you to pardon my shortcomings in the translation and to correct them for yourselves.



[Translation.]

### SELINUS, A DORIAN COLONY IN SICILY.

STUDY FOR THE RESTORATION OF A GREEK CITY OF THE 5TH AND 6TH CENTURIES B.C. by JEAN HULOT, Architect, Grand Prix de Rome 1904; Médaille d'Honneur, Salon 1907.

A Paper by M. GUSTAVE FOUGÈRES, some time member of the French School at Athens, Professor of Greek Literature at the University of Paris (Sorbonne).

We desire, Monsieur Hulot and I, to express our thanks to the Royal Institute of British Architects for their cordial reception, and for the honour they have done us. By arranging a special gallery for the exhibition of the work of M. Hulot, the Royal Institute has shown in a most flattering manner its appreciation of this young artist's work. By inviting me, a simple archaeologist, to explain and comment on the architect's drawings of the restoration of Selinus, the Royal Institute has demonstrated that a work of this description is one not only of Art but of Science. It is by this collaboration of the architect with the archaeologist that the monograph on the ruins of Selinus,\* on which we are now at work, will be produced.

It was under the following circumstances that M. Hulot was led to select Selinus as a subject for restoration.

Our students who gain the Grand Prix de Rome in architecture and become "pensionnaires" of the Academy of France at Rome (Villa Médicis), must, according to the regulations, devote their fourth year to an *envoi*, of which the subject is the restoration of a monument, or group of monuments, of Greek or

\* The drawings of M. Hulot, accompanied by the description of M. Fougères, will be reproduced in this work by héliogravure. Some of the plates are now being exhibited at the Franco-British Exhibition (French Section, Group III., Class 13) under the auspices of the publisher, M. Charles Scheubel, of the Librairie Générale de l'Architecture et des Arts décoratifs.

Roman classic antiquity. The aim of this regulation is, primarily, to familiarise the artist with the principles of antique art and construction, by requiring him to make accurate drawings of important ruins, with personal observations of their masonry, material, plan, and classic arrangement. Drawings of their existing condition (*état actuel*) are to this end obligatory.

On the data thus obtained the artist must proceed to found his Restoration, or reconstitution of such buildings, to the state in which they may be supposed to have presented themselves to the eyes of the ancients. It is in this part of his task that the artist shows his imagination, taste, and knowledge. Naturally, hypothesis is joined to observation of reality in these restitutions in order to fill in "*lacunæ*"—hypothesis sometimes arbitrary, when indications are lacking either in texts or in the ruins themselves, but restrained within the bounds of probability by a general knowledge of ancient art.

For our "*Prix de Rome*" students, the "*Restoration*" is the first really important occasion offered them to display their personal endowments, and to make themselves known to the public of Paris. Such a work can be done but once in the lifetime of the architect, and that, thanks to the opportunities and leisure afforded him by his stay in Rome, where he drinks the classic atmosphere at every breath. The qualities of retrospection and impartiality which it demands render the task of restoration often very laborious, though extremely fascinating; it is a dream, an evocation of the past, a resurrection; and so, a work at once of poetry and of history, released from all preoccupation as to mere utility. It carries the artist's thought into that vanished world which he endeavours to revive. He must study its literature, and explore and submit to critical analysis, not only the very site of the ruins he proposes to reconstitute on paper, but those great remains of antiquity wherein he seeks his indications and terms for comparison. Thus he is formed upon a concrete classic education, which will guard him from anachronism, contradiction, and modernism, infusing him with the spirit of antique beauty by the contemplation of its own masterpieces.

Properly understood, a "*Restoration*" is a lengthy enterprise, though a delightful one; entailing journeyings through ancient lands, in Italy, in Sicily, in Greece, even into Asia. These pilgrimages to the Holy places of classic art form the charm of their youth for our "*Prix de Rome*" students. They go from Italy to Greece, where the French School of Archaeology offers them hospitality and suggestions for their research; they visit the Acropolis of Athens, and the great workshops of archaeology at Eleusis, Delphi, Epidauros, Olympia, Delos, Mycenæ, and Tiryns, whence have issued such revelations for the architect. To-day, we must add to this list the famous Knossos of Crete and the Palace of Minos, where a learned Englishman—Dr. Arthur Evans—has laid bare a whole prehistoric world, so original, so living, that Hellenists deem it the most astounding discovery of classic archaeology; that which gives us the final key to the origins of Greek civilisation. They go yet further afield; in Asia, to Troy, Pergamus, Ephesus, Priene, to Hierapolis, Palmyra, and Basleek. Surveying thus the cycle of old civilisations, they rid themselves of that scholastic pedantry which represents Antiquity as fixed and uniform in aspect. They follow its evolution through succeeding and varied manifestations; the

historic sense of change is revealed to them, in the splendid vision of a world glorious in its unending variety.

We see, then, that if "*Restoration*" is not a utilitarian work, it is far from being useless. It is a means of general culture for the architect, at once historic and plastic, a source of instructive impressions and emotions. Those who have been privileged to see the noble and majestic contours of Italian scenery, or the landscapes of Greece with their glowing light, their simply ordered masses, and their unspeakable beauty of colour, will understand the delight drawn by the eye and mind of an artist from their contemplation; and the educational benefit resulting to his intellect, ennobled, lifted up, and warmed, by the sight of their serene radiance. Among their ruins, sublime in spite of mutilation, the soul of Antiquity reveals herself; compelling thought, and raising it beyond the technical preoccupations of the profession.

There is, too, in this intercourse with antiquity, a more positive benefit, reaching beyond the artist's personality and extending to us all. Antiquity has been held responsible for Academicism, that art of the schools which is the very negation of life, which would substitute for the observation of reality, canonic precepts and rules of beauty suitable for every time and every country. This false art committed its ravages at a period when true antiquity was yet little known, and was deformed by theoreticians who despised verity. Academicism begins with the Renaissance; with Vignola. But the treatise of Vignola is but a monumental Herbal, wherein all is dried and withered. It is no longer in Vignola that we must study the antique; it is on the spot, among the original monuments, that we must view those goodly types which grew freely on the soil of Greece, like vigorous living flowers. At the Parthenon, at the Erechtheum, at Paestum, we admire, not cold and narrow linear logic, but the flowering of a full-sapped art, wherein the race and the soil proclaim their vitality. So long as the motives and orders invented by the Greeks obtain among us, by force of a tradition which shows no sign of decay, so long as they continue to form the greater part of the decorative material which surrounds us, so long must their study be a necessity. Who, then, will deny, that it is best to seek them, not in the degenerate types of the Renaissance, but in their native and original grace?

This question of the teaching of architects at the purest fount of inspiration, is more vital than is generally supposed. It concerns, not only the artists themselves but, each and all of us. Whosoever is destined to walk in streets, or to be confined within the walls of rooms—to the inactivity of civilised folk whose life is not that of Red Indians—is at the mercy of architects. The architect represents the power controlling our daily happiness; he dominates our perceptions as the hypnotist dominates a medium. He can at his pleasure irritate or soothe our nervous system, making our surroundings either discordant or harmonious at his will. He can depress us with dull and commonplace buildings, exasperate us with his disorderly and unpleasant conceptions, or, on the other hand, bring us inward peace by giving nobility, grace, and gaiety to the framework of our daily life. Thus the builder disposes of our physical and moral health; he may be either a wholesome or an unwholesome influence, and, since many secrets of healthy architecture are to be

learned in the school of ancient art, is it not well to encourage its study?

And this is why the rule of our Académie des Beaux-Arts, requiring the holders of the Prix de Rome to restore the monuments of antiquity, is a very wise one. The greater number of such students have fulfilled it with success. For them, a fine "Restoration," exhibited and awarded a medal at the Salon d'Architecture, has been the beginning of fame, or, at least, of public notice; it is the masterpiece which has approved them masters of their craft. Should it be feared that a nice perception of the antique may put them out of touch with the ideas and needs of modern life, the following instances may reassure. Among our architects, the most enterprising are precisely those whose "Restorations" have been most remarkable; proving that they have learned the real lessons of antiquity without becoming enslaved by it. Baltard, architect of the Central Markets, a pioneer in metal construction, distinguished himself by his restoration of Pompey's Theatre. Charles Garnier, the author of the Grand Opera, first came into notice by a restoration of the Temple at Egina. Nènot, architect of the Sorbonne, had executed a restoration of Delos; Dutert, architect of the Galerie des Machines, had restored the Roman Forum and the Palace of the Cæsars. Gruault and Dégane, architects of the Grand et Petit Palais at the Exhibition of 1900, have restored, the first the Villa of Hadrian, the other the Palatine. Bernier, architect of the Opéra Comique, had restored (from the great explorations of Newton the Englishman) the Mausoleum of Halicarnassus. All these artists had learned, in the school of antiquity, the art of recasting the old formulae and of being abreast of their time.

The collection of these brilliant restorations published under the direction of M. d'Espouy,\* comprises all the important ruins of the Latin and Greek world. In this splendid repertory of antique art the restoration of Selinus by M. Hulot now takes the last place as to date, but not as to merit.

The choice of M. Hulot was limited by the works of his predecessors. After having traversed Greece and Asia Minor in the search for an unpublished theme, he settled upon the ruins of Selinus in Sicily, which had not yet been the subject of restoration as a whole. Let us examine the reasons which render this choice especially happy, and the qualities which distinguish the work of M. Hulot.

Selinus was a Greek colony in the south of Sicily, founded 628 B.C. by the Dorians of Megara Hyblæa, a town situate to the north of Syracuse. The history of Selinus was as short as it was brilliant. The city existed but two centuries, unceasingly at war with its neighbours of Segesta, but supported by the friendship of the Carthaginians. It rapidly attained a high degree of prosperity, due, doubtless, to its situation and to the fertility of its territory. Its harbours faced Carthage, from which they were only separated by a strait 287 miles in width; the ships of the time, with a favouring wind, could make the passage in three days. Selinus must especially have enriched itself by commerce with Libya. At the date of the Peloponnesian War in 413 B.C. it was already the third city in Sicily, and its temples were gorged with treasure.

\* Exhibited at the Franco-British Exhibition by the Librairie Générale d'Architecture. See previous note.

It was the quarrel with Segesta which was the cause of the ill-fated expedition of the Athenians to Sicily. After their defeat, Segesta appealed to the Carthaginians who, with true Punic faith, forgetting their old alliance with Selinus and tempted by its riches, came and besieged it. They took possession after a cruel siege, directed by Hannibal, the son of Gisco, and sacked and destroyed it—with the exception of the Temples—in 409 B.C. Shortly afterwards, Hierocrates the Syracusan installed himself in the Acropolis; rebuilding and completing its fortifications, and forming a small new town, from which he raided the interior. Subsequently this town, reduced to the condition of a village, reverted to Carthage, and lived an uneventful life until 249 B.C., when it was finally destroyed by its masters, and abandoned. In the Middle Ages the Saracens and Byzantines founded a small outpost on its ruins. Towards the tenth or eleventh century, a violent earthquake shook down the remains of the Great Temples, and these overwhelmed in their fall the huts of the Byzantine hamlet.

Thereafter, the site remained uninhabited. The waste became a jungle, the harbours silted up; the sand, drifted into dunes and swept by the sirocco, covered the very crest of the Acropolis and buried the ruins. A luxuriant growth of lentiscus, absinthie, acanthus, cactus, and aloe, invaded the houses and streets, hiding in formless chaos all but the heaped fragments of the temples and fortifications. A fauna of black snakes, vipers, and lizards swarmed among the stones; while, on the lower ground, the water-courses, choked by the sand hilla, transformed the valleys into pestilential swamps, reeking with malaria.

Such was its condition when in 1822-1823 two English architects, Harris and Angell, discovered Selinus. The revelation of its ruins to the world of scholars is their work. They began the first excavations and found those archaic metopes in which archaeologists see the ancestry of Greek plastic art. These became famous, and are the pride of the Museum of Palermo. But, this splendid discovery was dearly bought; we have to salute in Harris a glorious martyr of science: the ill-fated architect died on the field of honour, killed by the marsh fever. His example has not discouraged explorers, but it has rendered them more prudent. The excavations, immediately taken up by Hittorff and Zanth in 1824, have been continued under the Italian Government by Cavallari (1864-1880), Patricolo (1881-1891), and Salinas (1891 to the present time). Thanks to their methodical exploration, the ruins of Selinus have been rendered intelligible. The outlines of the town with its streets, and the plan of the fortifications of Hierocrates have been exposed. The Temples have furnished some new metopes, and works of clearance and consolidation have somewhat bettered the chaos of their ruins.

There remains, however, much to be done; all the blocks of houses, which at present only indicate the alignment of the streets, have to be cleared; and the exploration of the outer defences on the North-west front of the Acropolis has to be completed. This must all take time and money. The Italian Government, with so many excavations on its hands, having done what is essential, may well be pardoned for reserving this task for the future.

As to the Temples, most visitors would dream of their rebuilding; and when one contemplates the

splendid lines of columns thrown down by the earthquake—with their drums still in order, their capitals and capitals fallen to the ground, without displacement other than the substitution of a horizontal for a vertical position—one is tempted by the idea of re-erection, and haunted by the recollection of the still erect colonnades of Agrigentum, Segesta, and Paestum. But is this the absolute ideal? These fallen ruins of Selinus are most impressive in their sadness; the great dead columns lie on the ground like vanquished Titans. All the horror of the cataclysm revives in the confusion. Moreover, such an undertaking would be not only hazardous but involve ruinous expense. It would be a more useful, though a more modest enterprise, to clear the debris from the nucleus of the great Temple of Apollo, whose exact dimensions it is still impossible to ascertain.

The publications dealing with Selinus offer us as yet but incomplete studies. After Harris and Angell, Hittorff and Zanth published some restorations of the Temples, very interesting, but often daringly fantastic. Hittorff was a convinced apostle of polychromy, and indulged his views on it to excess. The fine book, by Koldewey and Pochstein, on Greek architecture in South Italy and Sicily, gives us really scientific and minute measured drawings of the temples, and the notes and reports of Italian archaeologists describe, very summarily, the ruins of the town. It remained to synthesise all these factors, and unite them in a complete work which should bring to life Selinus as a whole.

This was the task which fascinated M. Hulot. He has partially realised it in his "Restoration": he will complete it in the book with which he has been so good as to associate me. Here, in a few words, are the elements of his work.

The site of Selinus resembles that of many primitive colonies: a scarped peninsula, easy of defence on the land side, and enclosed by two ports, one trading and the other military. The old city occupied the extremity and the crest of a rocky chain, 40 metres in height; on the West, the mouth of the river Selinus formed an open roadstead with a sandy beach whereon the ships could be hauled up; on the East, another watercourse, the Gorgo Cottone, hollowed out a basin, of which the entrance, narrowed and protected against the sirocco by a mole, sheltered the battleships. The Acropolis of the primitive town was surrounded by walls; those which exist to-day, in the form of a quadrangle with towers and bastions, being those of the town rebuilt by Hermocrates in 408 B.C. These fortifications of Hermocrates are of great interest; they comprise galleries with posterns for sorties, great half-round towers divided into casemates for housing the catapults, and drawbridges over a ditch. This arrangement is unlike that of any city of Greece, but it recalls the famous fort Euryalus at Syracuse, with which it is almost contemporary, and by which Hermocrates was certainly inspired. While at Syracuse the galleries and magazines are hollowed out of the rock, at Selinus they are all of exposed masonry.

The city, thus fortified, was divided as to its length by a great street running straight from north to south, and 7 metres wide; and as to its width, by seven or eight transverse streets, cutting the first at right angles, and dividing the houses into nearly equal blocks. All this American town-plan, which we believe attributable to Hermocrates, is of the highest interest. It is the oldest example known of the application to the

lay-out of towns, of the geometric principles of the architect Hippodamus of Miletus, a contemporary of Pericles, and author of the plans of the Piræus, of Thurii, and of Rhodes. Hippodamus, a follower of Pythagoras, was the Greek "Hausmann" of the fifth century B.C. Strongly imbued with the idealistic spirit of his time, he desired to substitute clear, reasoned, and scientific conceptions for the caprices of chance. He dreamed of regular and geometric cities; preferring his theoretic plans to the tortuous mazes gradually formed by force of time; and saw therein a triumph of reasoned order over the wanton riot of nature. The Germans have discovered at Priene, in Asia Minor, a type of city built throughout according to these principles; but this late example dates only from the third century B.C. That of Selinus, almost contemporary with Hippodamus, must henceforward be regarded as classic.

The houses which line these streets are also of the end of the fifth century B.C. Now, the Greek house of this period is hardly known to us, except for the commonplace remains of the Eubœan village of Dystos. The Greek cities recently exhumed at Delos, Thera, and Priene, date only from the final Hellenic centuries; thus the houses of Selinus may be considered as typical of town dwellings in the classic epoch. They are of extreme simplicity and of a uniform model. Towards the street, the front wall with a massive plinth, is pierced by two doorways, one large and one small. On each side of the entrance corridor a shop opens to the street, being shut off from the interior, as at Delos and Pompeii. The corridor leads to a small internal court, surrounded by a rough peristyle and provided with a well. All around the peristyle are narrow rooms. The type is, in fact, that of the small houses at Delos. There is nothing to suggest the luxury of the Temples of Selinus; but, we know that at Athens itself the simplicity of the private dwellings was in great contrast with the splendour of the public buildings. Further, this parsimony is explained at Selinus by historic reasons; we have here, not the great Selinus of the sixth and fifth centuries B.C., but the village hastily rebuilt in 408 B.C. by Hermocrates, after the destruction of the city by the Carthaginians. However that may be, the clearance of one block is at any rate desirable; we should have then a Greek Pompeii of the end of the fifth century B.C.

This Acropolis, 400 metres in length and 150 to 300 metres wide, could hardly contain more than 4,000 or 5,000 inhabitants; and such an insignificant group agrees but little with the grandeur of that City, whose power and wealth are attested by Thucydides and confirmed by the magnificence, the size, and the number, of the sacred edifices built at enormous cost in the sixth and fifth centuries. It must be admitted, then, that beyond the Acropolis extended an outer city far more spacious; like the town of Syracuse around the primitive kernel of Ortygia. There is, to the north of the Acropolis, a vast plain where the city may have spread, but, the Carthaginians have left no trace of it.

There remain the Temples, the glory of Selinus, whose colossal ruins still astound the traveller; of these eleven now exist, divided into three groups. In the Acropolis are six Temples of the tutelary divinities of the city; on a hill to the East, are three Temples consecrated to the heavenly gods, Apollo and Hera among them; on the side of another hill, to the West,

is the sanctuary, with two Temples, of the goddess of the infernal regions. Demeter; its western position would seem to be a reminiscence of the under-world cult of Egypt.

Several of these buildings were gigantic. One of them, the Temple of Apollo, 120 metres long, is quite monstrous—evidencing an almost insane pride on the part of the Selinuntians—a delirium of stone without parallel in Greece. This unfinished colossus is now but a shapeless mound of enormous débris, covered by moss and stonecrop. It is difficult to realise, in this chaos, that one is in presence of human handiwork; the effect is that of an upheaval of natural rocks.

The most ancient of these Temples, with their flattened capitals, their short columns, their rude materials of tufa covered with polychrome stucco, are monuments of Doric energy. Doric archaism has expressed in these buildings, as in the worn sculptures of the metopes, the heroic simplicity of its patriotic and religious faith, and the astonishing vigour of this Hellenic offshoot in the West. The colony, some hundred years or so after its foundation, could already devote to the profit of its gods, this tremendous tithe of its riches.

Such is the city which M. Hulot has endeavoured to portray in its splendour. His restoration is no work of dull architectural geometry: the study is not only exactly truthful, but picturesque and animated, and this is not the least charming side of his composition. It is a real panoramic picture, wherein linear severity is relieved by an imaginative note, and by details of an ingenious actuality.

The artist has represented the town at break of day, the early hour of rosy-fingered Aurora. The flush of dawn already brightens the sky, and warm as with colour the still smoking Pharos, the Temple pediments, and the Towers of the ramparts. The gleaming colonnades, soaring aloft from their massive bases, shimmer in the calm sweet air. A solemn peace enfolds the drowsy patricians in the sacred citadel. But, below, at the foot of the ramparts, the seafaring quarter and the port are already astir for their daily labour; a heavy trolley slowly mounts the slope which leads from the quay to the high town: in the docks, slaves are handling the merchandise; ships are getting under way, their brown sails flung to the morning breeze. Already, a slender trireme is gliding at the full speed of its quick oars over the blue sea heavy still with night. It goes, laden with hopes, swept by its swelling sail towards the land of conquest and adventure out yonder—far away.

*Au bord mystérieux du monde occidental.*

The reading of the above translation concluded, M. Gustave Fougères rose at the instance of the President, and addressed the meeting as follows:—

"Mesdames, Messieurs,—La conférence écrite que vous a si bien traduite M. Simpson commençait par des remerciements. C'est aussi par des remerciements que je dois ouvrir cette brève allocution, au risque de vous paraître un peu monotone dans mes débuts. Mais il ne nous suffit pas de vous avoir exprimé notre gratitude de loin, avant cette séance d'inauguration. C'est pour nous un agréable devoir de vous dire notre grati-

tude après avoir vu et entendu. Nous sommes infiniment touchés des paroles de bienvenue que nous a adressées votre éminent Président, M. Ernest George. Nous sommes ravis de cette exposition harmonieuse et claire, dont l'arrangement atteste le goût parfait de l'organisation qui vous a présenté les dessins de mon ami Hulot dans les conditions les plus satisfaisantes pour un artiste.

"De mon côté, je dois exprimer ma gratitude personnelle à mon aimable interprète, M. Simpson. Son extrême bonne grâce et son talent d'écrivain ont établi entre nous le contact sans lequel, par mon ignorance de l'anglais, nous risquions de rester sans communication. M. Simpson a été, si je puis dire, notre commutateur intellectuel. Si j'ai le grand tort de ne pas posséder la pratique de 'l'anglais tel qu'on le parle,' je comprends assez l'anglais tel qu'on l'écrit pour avoir pu goûter les finesses de la traduction que vous venez d'entendre. Non seulement j'ai en conscience de n'être pas trahi par un interprète aussi averti des moindres nuances de la langue française, mais j'ai eu le plaisir de savourer la sobriété élégante et exacte qui sait, fort à propos, adapter avec personnalité au lieu de traduire servilement, de façon à présenter la pensée sous le jour qui convient le mieux à l'auditoire. M. Simpson a fait à ma modeste prose l'honneur de la traiter en lettré et en homme de goût. Qu'il me permette de le remercier d'aimer à ce point notre langue! Il n'est pas donné à tout le monde de contenter du même coup l'amour-propre de deux auteurs en des genres si différents. Eh bien! M. Simpson y a réussi; et nous rendons un hommage admirateur à la variété de ses talents: Hulot comme artiste, moi-même comme conférencier, nous nous déclarons vraiment bien traités.

"Je dois à la lecture de M. Simpson une admirable leçon d'anglais qui vaut pour moi des semaines de Berlitz! Cela me donnerait presque la tentation présomptueuse d'en éprouver le bénéfice immédiat en me risquant à vous parler anglais. Mais ce serait trop cruellement récompenser l'aimable attention que vous voulez bien me prêter. Je vais donc, très brièvement, vous donner en français les quelques explications nécessaires à l'intelligence des dessins de mon ami Hulot. Heureusement le langage de l'art équivaut à une sorte d'espéranto que tout le monde comprend. Et puis, au moment où le ciel de Londres nous fait un peu grise mine, peut-être ne me saurez-vous pas mauvais gré de vous entraîner dans une courte excursion au pays du soleil, de la lumière et de la couleur."

M. Fougères then directed attention to M. Hulot's drawings, briefly describing them and pointing out their chief features of interest.

The exhibition was opened to the general public on Tuesday, 14th July, and remained open daily until Saturday, 25th.

## M. JEAN HULOT'S PRIX DE ROME WORK.

By R. PHENÉ SPIERS, F.S.A. [F.]

THE Paper contributed last Monday by Professor Gustave Fongères on the occasion of the Private View of M. Jean Hulot's drawings contains an admirable account of the course of study required of the Grand Prix students in the fourth year of their studentship. The reasons which he puts forward in favour of this course are of the most convincing nature and deserve the closest attention. It should be remembered also that in the fourth year the students frequently go over to Athens, and reside in the French School there, where they can obtain the co-operation and assistance of the eminent scholars in that school. This is of special value when attempting to make a conjectural restoration of any Greek or Roman buildings, as passages referring to them in ancient authors are brought to light in elucidation of their original form and construction. In confirmation of the great value which is attached by the "Académie des Beaux-Arts" to the study of ancient monuments, M. Fongères points out that, so far from curbing the imagination of the Grand Prix students when called upon to deal with the practical design and execution of modern works, they have been the forerunners in modern developments. Baltard has already been referred to, but Labrousse in the Bibliothèque Ste-Geneviève and the Bibliothèque Nationale (1854) and Duban in the École des Beaux-Arts were the first when employing iron in their construction to treat it decoratively as an external feature.

It now remains to say something about the superb collection of drawings by M. Jean Hulot, drawings which will be a revelation to our students, and are so to a certain extent to me, though I am fairly well acquainted with the "envois" of the last fifty years. The most remarkable drawings are those of the south and east elevations of the Acropolis and the bird's-eye view of the whole site.

It is not often that a French architect ventures on a perspective. By their system of projected shadows and gradation of tints which suggest the various planes, they obtain a result which is not only understood and appreciated by their confrères, but by the French public, who are well accustomed to such representations. It frequently happens also that French perspectives are incorrect and distorted, the point of distance being too close to the picture plane, which may have led to their rare adoption. This, however, is not the case with M. Hulot's bird's-eye view, which not only gives the most perfect representation of the Acropolis, the port, and the lower city, but is drawn with an

admirable simplicity of execution. Portions of the perspective, such as the delineation of the numerous groups of houses on the Acropolis and its slopes, are, or should be, extremely complicated, but they are apparently drawn straight off with the greatest ease; the accessories, such as trees and shrubs, are equally remarkable in their quiet reserve of line and massing. The same reticence is also noticeable in the two great elevations, and here not only in the line but in the conjectural design of the numerous structures there shown. The drawing of the great temples (of which the flanks are shown owing to the fact that their axes are not quite perpendicular to the picture plane of the elevation) was comparatively easy in consequence of familiarity with their design from long study, but the delineation of the great walls, the varied designs of the ancient Greek houses with their porticoes and verandahs, the simpler aspect of the more ordinary stone huts, and the boat sheds, are all marvels of execution in consequence of the simplicity of the lines. They all show also a close observance of and acquaintance with the construction and design of the ancient Greek houses lately discovered at Delos, Priene, and elsewhere, and an entire absence of those *tours de force* and fantastic ideas which sometimes characterise a student's work. The drawing of the triremes, the numerous figures, the cattle, and other accessories is of the most subtle nature, and renders M. Hulot's "envoi" one of the most remarkable ever produced.

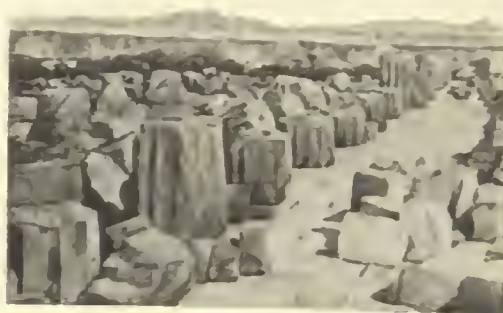
It frequently happens in ancient as in modern times that credit is given to persons for originating features which have existed long before. Thus Hippodamus is said by Aristotle to have evolved a system of planning towns in rectangular blocks, with long straight streets crossing one another; but according to M. Hulot the lines of the streets in the Acropolis of Selinus, where this regular plotting out is found, are contemporary with the most ancient temples C and D, and consequently date from 575-560 B.C., nearly a century and a half before Hippodamus's time. At present only the south-east portion of the Acropolis has been excavated, but sufficient remains have been found to suggest the general planning of the other habitations within the walls, the arrangements of which have been based by M. Hulot on similar houses found at Priene and Delos, and it is not possible there to go far wrong. It has, however, led to the composition of many external elevations of a charming character, and withal as simple as possible. The

fortifications on the north side, portions of which date from the foundation of the city, and others for those constructed by Hermocrates in 409 B.C., after the Carthaginian destruction of the town in the previous year, are of great interest and value. In the fine drawing of the most ancient temple in the Acropolis, known as Temple C (575 B.C.), M. Hulot has profited by the researches made since Hittorff's time, the most important being the discovery of the terra-cotta slabs, antefixes, cresting, and other details with which the upper portion of the cornice was covered. Seeing that the temple was built of stone, to have deemed it necessary to carry on the tradition of protection such as was required in the early timber structures at first seems improbable, but the existence of a similar system was discovered at Olympia some time ago when the remains of the Treasury of Gela (a town in the south of Sicily) were found, and this and other examples have been accepted by archaeologists as an ancient custom. It will be noticed in M. Hulot's drawing that the whole of the pediment enclosures and the upper portion of the cornice are covered with terra-cotta slabs richly painted in brilliant colours, which together with other features are splendidly represented in other drawings. Some exception has been taken to the deep colour of the blue introduced on the elevation; but had the sky been represented with that deep blue colour which is found in Sicily the colour on the elevation would have been less evident. In front of the great doorway of the cella M. Hulot shows the gates which are supposed to have closed it, as also the bronze casing in which the gates were enclosed. This suggests a rather too modern

contrivance; but the traces on the pavement of the casing and gates are clearly shown in Koldewey and Puchstein, *Die Griechischen Tempel unter Italien und Sicilien*, 1899. The unusual type of stylobate should also be noticed here, which consisted of four steps, with additional steps on the east front for greater facility of ascent.

The small temple on the left-hand side, dedicated to Empedocles, is here correctly shown as of the Doric Order, and is the only example of the Tetrastyle Prostyle type. Hittorff assumed that the Ionic capital found near belonged to the temple, but it is now recognised as being that of a votive column, and as such is shown on the right of the temple; instead, however, of a tripod, it probably carried a serpent, which would better fit the oblong abacus of the capital. The numerous accessories shown in front of the temple, such as the altars, statues, tripods, and other *ex voto* offerings, give great scale to the temple façade, and are all indicated with the facility of a master. This is, in fact, the characteristic of all the drawings, and it should be noted how the trees, shrubs, and foliage are massed in simple washes so as not by their detail to detract from that which M. Hulot considered to be the chief element, viz. the architectural design and details.

Besides the drawings of Selinus, M. Hulot has sent other studies, the most remarkable of which is the plan of the chapel in the Royal Palace at Palermo. Having unfortunately commenced it on too small a scale, he has persisted, nevertheless, in the delineation of all the mosaics of the pavement, a task which required exceptional patience and great accuracy in its execution.



From a Drawing by M. Jean Hulot (1901).



9 CONDUIT STREET, LONDON, W., 25th July 1908.

## CHRONICLE.

### THE MIDSUMMER EXAMINATIONS.

#### The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the undermentioned provincial centres on the 15th and 16th June. Of the 188 candidates admitted, claims for exemption from sitting for the Examination were allowed to the number of 21. The remaining 167 candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London . . . . .	79	60	19
Birmingham . . . . .	6	5	1
Bristol . . . . .	13	9	4
Cardiff . . . . .	9	6	3
Glasgow . . . . .	2	1	1
Leeds . . . . .	14	12	2
Manchester . . . . .	33	26	7
Newcastle . . . . .	11	10	1
	167	123	44

The passed and exempted candidates—numbering altogether 149—have been registered as Probationers. Their names and addresses are as follows:—

ALLDERIDGE: Charles Donald; 41 Salisbury Gardens, Park Avenue, Hull.  
 ARNOLD: Raymond Charles; 49 Thorold Road, Ilford, Essex.  
 BARRASS: Gerald Oxley; 160 St. John's Road, St. John's, S.E.  
 BASTABLE: Herbert Aylwin; c/o A. S. Ayton, Esq., "Somerset," Saunders Street, Southport, Lancashire.  
 BELL: Frank Harold Taylor; 91 Calais Road, Horninglow, Burton-upon-Trent.  
 BESWARICK: John Charles; "Brierley," 28 Devonshire Road, Cambridge.  
 BIONSTINGE: Harry Joseph; 5 Pembroke Gardens, Kensington, W.  
 BOND: Herbert Henry; c/o T. R. Kitell, Esq., 17 George Street Chambers, Plymouth.  
 BOSTON: William Thomas; "The Beeches," Thorpe Hamlet, Norwich.  
 BOTHWELL: Edwin Forbes; "Blackhall," Romford Road, Forest Gate, Essex.  
 BOWHILL: Charles Frederick; Wheatley Hill, Thornley S.O., Co. Durham.

BOWRING: John Valentine; Woodlands, Rochford Road, Eastwood, Essex.  
 BRINDLE: Walton Wood; Asile, Beckermel, Cumberland.  
 BROAD: Kenneth Stephen; Stamford Brook Lodge, Ravenscourt Park, W.  
 BROAD: Malcolm Charles; The Elms, Nicoll Road, Harlesden, N.W.  
 BROUGHTON: Walter; Groby, near Leicester.  
 BROWN: Murray; 42 Coram Street, Russell Square, W.C.  
 BUCKLEY: Cyril Hugh; "Naholia," Southbourne Road, Boscombe, Hants.  
 BUCKLEY: Frederick Arthur; The Vicarage, Llandaff, Glam.  
 BURNETT: Andrew Stuart; Shawford Down, Hants.  
 BURT: John James Douglas; Queen's Hotel, Dartmouth, S. Devon.  
 CALDWELL: Reginald Oliver; "Elmsdale," Alexandra Road, Penzance.  
 CHADWICK: Charles Bernard; Myrtle Bank, West Park Street, Dewsbury.  
 CHAMBERS: Robert Benjamin Alcock; 14 Brondesbury Park, N.W.  
 CHANT: Frederick James; 46 Franklin Road, Gillingham, Kent.  
 CHARLEWOOD: George Edward; 3 Bentinck Terrace, Newcastle-on-Tyne.  
 CHASSEAUD: Harry Robert; Quarantine Board, Alexandria, Egypt.  
 CHEERS: Ronald Anson; "Heriotdene," Waldegrave Park, Twickenham.  
 CHESTER: John William; 213 Railway Street, Nelson, Lancashire.  
 CLACK: John; 16 Norfolk House Road, Streatham, S.W.  
 CLARKE: James Andrew; 581 Cheetham Hill, Manchester.  
 CLEMES: Francis; "Mendip Villa," Clarence Road N., Weston-super-Mare.  
 CLUCAS: Arthur Roland; "Lyndene," Cronkbourne Road, Douglas, Isle of Man.  
 CONNOCK: Edward John; 3 Everton Road, Yeovil.  
 COSSETT: George Alfred; "Nevada," Osborn Road, Fareham, Hants.  
 CRABTREE: Barker; 37 Adelaide Street, Todmorden.  
 CROCKER: George Lewis; 2 Danygraig Road, St. Thomas, Swansea.  
 DANGERFIELD: Bernard; 38 Whitestile Road, Brentford, Middlesex.  
 DANIEL: Thomas Idewelyn; "Bryn Dovey," Cranbrook Road, Ilford, Essex.  
 DIXON: Philip Fletcher; 2 Ashburn Place, Hkley.  
 DRYDEN: Thomas Archibald; The Pharmacy, Landore, R.S.O.  
 DUNCAN: Roland Aver; 3 Blenheim Road, Redland, Bristol.  
 EATON: George Morley; 6 South Square, Gray's Inn, W.C.  
 ELLIS: Thomas Gordon; 43 Wood Lane, Shepherd's Bush, W.  
 FINCHAM: Edward; The Green, Marks Tey, Colchester.  
 FOWELL: Joseph Charles; Mill Bank, Beccles, Suffolk.  
 FOWLER: Charles Roy; 45 Lincoln Road, East Finchley, N.  
 GARRARD: Cyril Proctor; "Ivydene," Westerfield, Ipswich.  
 GAYMER: Bernard Preston; 42 Theobald's Road, W.C.  
 GIBBS: George Herbert; 3 Cavendish Road, Westbury-on-Trym, Bristol.  
 GIBBS: Harry Beckett Swift; 15 St. James Bow, Sheffield.  
 GISSING: Walter Leonard; Cliffe Hill House, Wakefield.  
 GOODSALL: Robert Harold; Chiltern, Tankerton-on-Sea, Whitstable.  
 GRAY: George Hall; 3 Preston Avenue, North Shields.

- GROVES: Francis Neville; Durlstone, Idlantheury Road, Newport, Mon.
- HAGUE: Horace Vincent De Courcey; "Roslyn," Bloomfield Road, Blackpool.
- HALE: Percy Edward; 83 Kingsland Road, N.E.
- HAMILTON: Ernest Barlow; East Bank, Manchester Road, Haslingden.
- HANNAH: Percy Ward; Glenfield, Alexandra Street, Sherwood Rise, Nottingham.
- HARPER: Cecil Kendall; Anworth House, Woodford Green, Essex.
- HAWKINS: Frederick George; 8 Church Walk, Hendon, N.W.
- HEBBLETHWAITE: Bernard Robinson; "Rossmore," Hayne Road, Beckenham, Kent.
- HIGGS: Harold John; Goring, Oxon.
- HIGSON: Clement George; Northcote Place, Newcastle, Staffs.
- HILL: Christopher Benson, Jun.; Benson House, Todmorden, Lancs.
- HILL: Geoffrey Walker; 38 Albion Street, Leeds.
- HINES: Gerald; "Warriston," East Boldon, Newcastle-on-Tyne.
- HOLDEN: William; Lindenhurst, Cockton Hill, Bishop Auckland.
- HOWELL: Frederick William James; John Street, Porthcawl, S. Wales.
- HULL: Vincent James; "Lofthouse," Garstang, Lancs.
- JOHNSON: Frank Leslie; Leslie House, 58 Constantine Road, Hampstead, N.W.
- KIDD: Henry Douglas; "Ormidale," Nether Street, Church End, Finchley, N.
- KNOTT: Arthur John; "Trelawny," Milburn Road, Weston-super-Mare.
- LAVENDER: Ernest Clifford; "Haghenden," Belvidere Road, Walsall.
- LEIGHTON: Henry Birkett; 68 Upper Albert Road, Meersbrook, Sheffield.
- LINGLEY: William James; 85 Warwick Street, Hulme, Manchester.
- LOWRY: Robert; 76 Bishop's Road, Bayswater, W.
- LUCAS: William Frederick; "Chelston Cottage," Torquay, S. Devon.
- LUTY: Arnold Mayhew; Southgate, Elland, Yorkshire.
- LYNN: Robert; 18 Thorndale Avenue, Antrim Road, Belfast.
- MACLAGAN: Matthew Young; 20 Lauriston Gardens, Edinburgh.
- MADDOCK: Richard Henry; "Tremadoc," Belmont, Surrey.
- McFIE: Bernard John Stewart; 17 Kingston Road, Oxford.
- MARCHINTON: James Edward; 184 Psalter Lane, Sheffield.
- MAXWELL: Thomas; 6 Trenant Road, Irlams-o'-th'-Height, Manchester.
- MEADOWS: Samuel Douglas; Adelalde House, Humberstone Road, Leicester.
- MEREDITH: Edward; The Wyvern, Newbridge-on-Wye, Radnorshire.
- MIDGLEY: Ellis Reginald; St. Ives, Headingley, near Leeds.
- MILLS: Robert Norman Spencer; Lymchurst, Flixton Road, Urnston.
- MOONEY: William Glover; 28 Martin's Lane, Cannon Street, E.C.
- MORRISON: James Harold; "The Gables," Tufley, Gloucester.
- MOSSOM: William; 75 Park Crescent, North Shields.
- MOTTRAM: Alfred Hugh; 17 Denning Road, Hampstead, N.W.
- NATHANIELSZ: John Julian; 5 Garden Cottages, Pontefract Road, Cudworth, near Barnsley.
- NEELY: Hugh Becham; 157 Widmore Road, Bromley, Kent.
- NEWMAN: Arthur Cecil; "The Gables," Spencer Road, Chiswick, W.
- NICHOLSON: Frederick William; 20 Preston Grove, Anfield, Liverpool.
- NOBLE: Walter; Bridge Inn, Darfield, near Barnsley.
- ODOM: John Henry; Norton Lees Vicarage, Sheffield.
- PARKER: Robert Whitfield; 29 Beaconsfield Avenue, Low Fell, Gateshead.
- PENTELow: Francis Howell; 61 Shrewsbury Street, Old Trafford, Manchester.
- PETCH: Harold Austin; 166 Prospect Road, Scarborough.
- PICTOR: Arthur Robert Dalzel; Bruton, Somerset.
- POLLITT: Hugh; 885 Ashton Old Road, near Openshaw, Manchester.
- PRANCE: Eustace Walpole; Whitechurch, Mannamend, Plymouth.
- PUNTER: Percival Allen; Dau-y-bryn House, Brynmelyn, Bridgend, Glam.
- RICHMOND: Roy Aynesley; Fengates House, Redhill, Surrey.
- ROBERTS: Owen Morris; "Brynecllyn," Uxbridge Square, Carnarvon.
- ROBINSON: Norgrove Stuart; 14 De Parry's Avenue, Bedford.
- BOE: Clarence Eugene Fisher; Queen Victoria Seamen's Rest, Poplar, E.
- ROGERS: Cecil Walter; 23 Elm Bank Gardens, Barnes, S.W.
- ROME: Arthur; The Temple, 24 Dale Street, Liverpool.
- ROTHWELL: William Edward; 235 Moorside Road, Swinton, near Manchester.
- ROWELL: Leslie; 9 Devon Square, Newton Abbot, S. Devon.
- ROWNTREE: Colin; 11 Hammersmith Terrace, W.
- RUDD: John William; 172 Palatine Road, West Didsbury, Manchester.
- SAWYER: Herbert; The Tower, Kenley, Surrey.
- SEDGWICK: Leslie Pope; "Glamis," Spencer Road, Grove Park, Chiswick.
- SEMPLE: William London; 28 St. George's Terrace, Jesmond, Newcastle-on-Tyne.
- SHEPHERD: Frank; Clifford Lodge, Cannington, Bridgewater.
- SILVER: Edwin Russell; 7 Sion Row, Twickenham.
- SIMPSON: Ivan Leslie; Carlton, West Park Road, Blackburn.
- SMITH: Herbert Gordon; Sunnyside, Monkseaton, Northumberland.
- SMITH: Thomas Harold; 108 Davenport Street, Bolton, Lancs.
- SORTWELL: Arthur Robert; 17 Hamilton Road, Ealing, W.
- SPURLOCK: George William; 70 Gracechurch Street, E.C.
- STAINSBY: George Pawson; 24 Newby Terrace, Stockton-on-Tees.
- STEEL: Charles Ernest; 16 Chilmington Road, Ealing, W.
- STEVENS: Frederick John; School House, Welldown Square, E.
- STEVENSON: Raymond Crossdale; "Revelstoke," Gleneldon Road, Streatham, S.W.
- STRANSOM: Walter Ronald; 40 Market Place, Reading.
- SUTCLIFFE: Frederick; Hazel Mount, Hillside Road, Colwyn Bay.
- SWEATMAN: Percy Emanuel; "The Firs," Marsham Way, Gerrard's Cross, S. Bucks.
- TERRELL: William Edward Wallis; Struttongate School, Kendal.
- TOOTHILL: John Cedric Penman; 2 Park Avenue, Riverdale Road, Sheffield.

TREW: Harold Fletcher; "The Gables," Tuffley, Gloucester.  
 WALKER: Charles Austin; 1 Bushell Place, Preston.  
 WALLER: Thomas Jenkinson, 194 Gillesgate, Durham.  
 WARWICK: Frank; 112 Brondesbury Villas, N.W.  
 WATERHOUSE: George; Stramongate School, Kendal.  
 WEBBER: Douglas Howard; 451 Gillott Road, Edgbaston, Birmingham.  
 WEST: Charles William; 2 Upper Denmark Road, South Ashford, Kent.  
 WILLIAMS: Llewellyn Ebenezer; "Upwood," The Bridle Road, Purley, Surrey.  
 WOOD: Arthur Jackson; 54 St. Nicholas Street, Leicester.  
 WOOLAMS: Percy Albert; 121 Sandwell Street, Walsall.  
 WOOLLEY: R.; High Lea, Wembley.  
 WRIGHT: Christopher; Connaught Club, Marble Arch, W.  
 WRIGHT: James Alexander; "Melbury," Bushey Heath, Herts.  
 YATES: Thomas; 83 New Bridge Street, Manchester.

### The Intermediate Examination.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and at the undermentioned provincial centres on the 15th, 16th, 18th, and 19th June. One hundred and twenty-six candidates were examined, and the results are reported as follows:—

District	Number Examined	Passed	Relegated
London . . .	105	47	58
Bristol . . .	15	9	6
Glasgow . . .	4	3	1
Leeds . . .	14	7	7
Manchester . . .	22	8	14
Newcastle . . .	16	9	7
	178	83	95

The names and addresses of the successful candidates are as follows, being given in order of merit, as placed by the Board of Examiners:—

DAY: Douglas William [*Probationer 1899*]; "Deanhurst," Knighton Drive, Leicester.  
 CHERRINGTON: Harry [*Probationer 1903*]; Church Lane House, Tipton, Staffs.  
 MILBURN: William, jun. [*Probationer 1902*]; 8 Thornhill Park, Sunderland.  
 SWAN: Thomas Alkman [*Probationer 1902*]; 28 Gayfield Square, Edinburgh.  
 ROBERTSON: Norris Bathgate [*Probationer 1902*]; Roydfield, Uppingham Road, Leicester.  
 HOWARD: Frank Ernest [*Probationer 1907*]; 24 Polstead Road, Oxford.  
 PAGE: James [*Probationer 1907*]; 10 Clitheroe Road, Clapham, S.W.  
 COOPER: Frederick Roland [*Probationer 1904*]; 30 Highfield Street, Leicester.  
 CARUS-WILSON: Charles Denny [*Probationer 1904*]; Sundridge Rectory, near Sevenoaks, Kent.  
 BUCKNELL: Leonard Holcombe [*Probationer 1906*]; 38 Dunster Gardens, Brondesbury, N.W.  
 VEY: George, jun. [*Probationer 1907*]; 48 Thornton Avenue, Chiswick, W.  
 LAKEMAN: Albert [*Probationer 1905*]; 78 Charrington Street, Oakley Square, N.W.  
 LIVOCK: Stanley Gage [*Probationer 1903*]; 197 Fenne Park Road, Crouch End, N.  
 SWANNELL: Charles Malcolm [*Probationer 1906*]; 4 Delaporte Gardens, Muswell Hill, N.

DOWDESWELL: Frank [*Probationer 1905*]; "Trevone," Grovelands Road, Palmer's Green, N.  
 HARVEY: David [*Probationer 1903*]; 51 Albert Avenue, Hull.  
 STOKOE: Ralph [*Probationer 1901*]; 12 The Oaks, Sunderland.  
 WIGZELL: Norman [*Probationer 1904*]; 5 Olive Street, Sunderland.  
 BOOTH: Alfred [*Probationer 1901*]; 219 Sheffield Road, Barnsley, Yorks.  
 CROMIE: Robert [*Probationer 1904*]; 30 Sister's Avenue, Clapham Common, S.W.  
 RICHES: Sidney [*Probationer 1904*]; "Grecba," 35 Culverden Road, Balham, S.W.  
 HOWITT: Thomas Cecil [*Probationer 1905*]; 6 South Square, Gray's Inn, W.C.  
 SUTCLIFFE: Eric John [*Probationer 1906*]; 12 Osborne Street, Hebbden Bridge, Yorks.  
 MARTIN: Henry Ray [*Probationer 1907*]; 137 Burnt Ash Road, Lee, S.E.  
 COATES: William Victor [*Probationer 1906*]; c/o Messrs. Bentley & Hull, Old Market Place, Grimaby.  
 PARKER: Thomas Abel [*Probationer 1907*]; 37 Hall Street, Colne, Lanes.  
 SUDDARDS: Frank [*Probationer 1904*]; 52 Hertou Grange Road, Bradford.  
 STANLEY: Gerald [*Probationer 1905*]; Sunny Croft, Trowbridge.  
 GRABHAM: Stanley [*Probationer 1905*]; 23 Tatham Street, Sunderland.  
 SCHOOLING: Stanley Philip [*Probationer 1905*]; "St. Kilda," Bycullah Avenue, Enfield.  
 MAUGHAM: Joseph Robinson [*Probationer 1906*]; 38 Windsor Terrace, Gosforth, Newcastle-on-Tyne.  
 GIBBY: Ernest William [*Probationer 1906*]; 26 Shrewsbury Road, Stafford.  
 PLATTS: Percival Oates [*Probationer 1907*]; 46 College Grove Road, Wakefield.  
 ORTON: William Aylott [*Probationer 1904*]; 148 Shooter's Hill Road, S.E.  
 MOODIE: John [*Probationer 1906*]; 65 Eastwood Road, Goodmayes, Essex.  
 GOLDSTRAW: Harold [*Probationer 1904*]; St. John Street, Hanley, Staffs.  
 LOGAN: Philip Norman [*Probationer 1905*]; Eastfield, Southville, Bristol.  
 DAVIDSON: Oswald Ferguson [*Probationer 1906*]; 31 Eldon Street, Newcastle-on-Tyne.  
 ROUGHLEY: Edward [*Probationer 1906*]; 18 Elephant Lane, Thatch Heath, St. Helen's.  
 WATSON: Walter Clarence [*Probationer 1903*]; 9 Clifton Avenue, West Hartlepool.  
 BANSOR: Thomas Paul [*Probationer 1904*]; Highfield House, Fen Ditton, Cambs.  
 BARKER: Richard Alfred [*Probationer 1899*]; 14 Park Road, Woodside, Wimbledon.  
 BENIANS: Hubert Joseph [*Probationer 1907*]; The Mount, Gouldhurst, Kent.  
 BESANT: Hubert Saxton [*Probationer 1906*]; 44 Darent Hill Road, Stamford Hill, N.  
 BESWICK: William [*Probationer 1904*]; Queen's Park, Chester.  
 BLACKMORE: Alfred Charles [*Probationer 1905*]; Belmont, Cottingham, E. Yorks.  
 ELENKINSOPP: Henry Joseph [*Probationer 1905*]; 103 Upper Hanover Street, Sheffield.  
 HUNCE: Henry Edgar [*Probationer 1904*]; 28 Clapton Common, N.E.  
 BURGUM: William Henry [*Probationer 1905*]; 8 Beaufort Road, Edgbaston, Birmingham.  
 BUTT: Charles Frederick [*Probationer 1905*]; 17 Chichester Street, Westbourne Square, W.

CALVERT: Charles Henry [*Probationer* 1904]; 18 Low Pavement, Nottingham.

CATHCART: William Darcy [*Probationer* 1906]; 76 Bishop's Road, Bayswater.

COCKRILL: Kenneth Arthur [*Probationer* 1903]; Post Office Chambers, Gorleston, Great Yarmouth.

COOKE: Charles, jun. [*Probationer* 1904]; "St. Leonard's," Hainault Avenue, Westcliff-on-Sea, Essex.

COPE: George Arnold [*Probationer* 1903]; 11 Woburn Place, Russell Square, W.C.

CULLIFORD: Leonard Arthur [*Probationer* 1903]; 14 Apaley Terrace, Acton.

DURRANT: Arthur Michael [*Probationer* 1905]; The Vicarage, Leverstock Green, Hemel Hempstead, Herts.

DYER: Bernard Arnold [*Probationer* 1904]; 8 St. Peter Street, Hereford.

FORD: Guy Singleton [*Probationer* 1905]; Second Avenue, Sherwood Rise, Nottingham.

GIBBONS: Joseph George [*Probationer* 1902]; 45 Clarence Road, Moseley, Birmingham.

GREEN: Thomas Claud Erskine [*Probationer* 1907]; 16 Lisgar Terrace, West Kensington, W.

GRUFFYDD: Caradog Owain ap [*Probationer* 1905]; Cartref, Wellingborough.

HALL: Herbert William [*Probationer* 1904]; 34 Sandringham Road, Tue Brook, Liverpool.

HARPER: Hal [*Probationer* 1905]; 509 City Road, Edgbaston, Birmingham.

HARVEY: John Culy [*Probationer* 1905]; 90 Birchfield Road, Northampton.

JONES: Matthew Meredith Creasey [*Probationer* 1900]; 3 Derby Terrace, Glasgow.

JONES: Percy Charles [*Probationer* 1901]; Fairfield Street, Mere Road, Leicester.

JOTHAM: George Francis [*Probationer* 1902]; "Bromfield," Roath Park, Cardiff.

LEYBOURNE: Malcolm [*Probationer* 1904]; "Seahaven," Beach Road, South Shields.

LITTLEJOHN: Louis Salmond [*Probationer* 1905]; 4 Verum Avenue, Eccles, Lancs.

LUCAS: William [*Probationer* 1906]; 59 Weltje Road, Hammersmith, W.

MARSHALL: Francis William [*Probationer* 1905]; Bank House, Solihull.

MASTERS: Frank Norman Denison [*Probationer* 1905]; St. Vincent, Doncaster.

MORGAN: Ernest Edmund [*Probationer* 1905]; 34 Weston Park, Crouch End, N.

PEARSON: William Herbert [*Probationer* 1904]; Thornwick, Northcott Avenue, Reading.

PEAT: Victor Hobart [*Probationer* 1904]; 5 Beaconsfield Terrace, Gorleston-on-Sea.

POIGLASE: Ernest John [*Probationer* 1905]; 73 Woodland Road, Bristol.

SKINNER: Theodore Arthur [*Probationer* 1905]; 6 Chesterfield Road, Bristol.

SMITH: Frank William [*Probationer* 1905]; May Villa, 18 Victoria Street, Newark-on-Trent.

STEDMAN: William Bernard [*Probationer* 1907]; 34 Athelstan Road, Cliftonville, Margate.

TAYLOR: Aubrey George [*Probationer* 1905]; 12 Durlston Road, Kingston-on-Thames.

WEASEL: Laurence Thomas [*Probationer* 1902]; Holmleigh, London Road, Southend-on-Sea.

WILLS: William Elias [*Probationer* 1906]; Dan-y-deri, Ystrad, Glam.

#### Exemptions from the Intermediate Examination.

The following candidates, who had attended the architectural courses and obtained First-class Certificates at the Universities mentioned against

their names, were granted exemption from sitting for the Intermediate Examination, and have been registered as *Students R.I.B.A.*:—

EVANS: Arthur Frederic [*Probationer* 1907]; Fazakerley House, Prescot, Lancs [*School of Architecture, Liverpool University*].

NEWNUM: Eric George [*Probationer* 1907]; 28 Clarence Gate Gardens, Regent's Park, N.W. [*School of Architecture, University College, London*].

SMITH: Hugh Pleasantley [*Probationer* 1907]; 52 Frederick Road, Edgbaston, Birmingham [*School of Architecture, University College, London*].

TAYLOR: Herbert Gilbertson [*Probationer* 1907]; Ingiam House, Stockwell, S.W. [*School of Architecture, Liverpool University*].

WRIGHT: Christopher [*Probationer* 1908]; Connaught Club, Marble Arch, W. [*School of Architecture, Liverpool University*].

#### The Final Examination.

The Final and Special Examination, qualifying for candidature as *Associate R.I.B.A.*, was held in London from the 25th June to the 3rd July. Of the one hundred and sixteen candidates examined, thirty-six passed, and the remaining eighty were relegated to their studies. The names and addresses of the successful candidates are as follows:—

BAIRD: William [*Probationer* 1902, *Student* 1904]; 2 Walpole Street, Sloane Square, S.W.

BOUTCHER: Charles Geoffrey [*Probationer* 1904, *Student* 1905]; 107 The Grove, Camberwell, S.E.

BROMHEAD: Frank Harold [*Probationer* 1899, *Student* 1905]; High Street, Baldock, Herts.

BURGOINE: Stephen [*Probationer* 1900, *Student* 1903]; 1 Kennington Park Gardens, S.E.

HURLINGHAM: Alfred Claude [*Probationer* 1904, *Student* 1906]; Roasyvern, Evesham.

CABLE: James Sydney [*Probationer* 1902, *Student* 1904]; 11 Aere Lane, Brixton, S.W.

CLARK: Charles Walter [*Probationer* 1903, *Student* 1905]; 167 Melfort Road, Norbury, S.W.

COLTHURST: William Hunter [*Probationer* 1899, *Student* 1901]; Northfield House, Taunton.

CHAMPTON: Alfred [*Probationer* 1903, *Student* 1904]; Arden House, Belmont Street, Southport.

DITCHBURN: David William [*Probationer* 1901, *Student* 1904]; 34 Fillibrook Road, Leytonstone, Essex.

DIXON: Reginald Arthur [*Probationer* 1903, *Student* 1905]; 72 Great Barr Street, Birmingham.

DYKE: David Nicholas [*Probationer* 1905, *Student* 1906]; 2 Woodland Terrace, Hampton Road, Redlands, Bristol.

EMERSON: Harry Valentine Milnes [*Probationer* 1902, *Student* 1905]; Belgravia Chambers, 94 Victoria Street, Westminster, S.W.

EPPS: Walter M. [*Special Examination*]; "Fernleigh," Freta Road, Bexley Heath.

FARROW: George Reginald [*Probationer* 1904, *Student* 1907]; 40 Hillside Road, Streatham Hill, S.W.

FORSYTH: Charles [*Probationer* 1900, *Student* 1902]; 33 West Cumberland Street, Glasgow.

GRIEVE: James [*Probationer* 1904, *Student* 1906]; City Architect's Department, Bradford.

GRAVENOR: Harold James [*Probationer* 1899, *Student* 1907]; 63 Sydenham Park, Sydenham, S.E.

GREEN: Edward Rodwell [*Probationer* 1904, *Student* 1906]; 17 Denning Road, Hampstead, N.W.

HOLT: Harold Guy [*Probationer* 1901, *Student* 1904]; c/o Messrs. Bradshaw & Goss, 108 City Road, E.C.

- JEFFERIES: Herbert George [Special Examination]  
59 Palewell Park, East Sheen, S.W.
- JEFFREY: John McNew [Probationer 1904, Student 1906]; 3 Queen Square Place, W.C.
- LANGMAN: Francis William [Probationer 1900, Student 1904]; 22 St. James Square, Notting Hill, W.
- LOVELUCK: Edward [Probationer 1906, Student 1907]; Sunnyside, Hridgend.
- MEAKIN: Frank [Probationer 1899, Student 1905]; 78 Paps Road, New Cross Gate, S.E.
- MILNE: David [Probationer 1902, Student 1903]; 3 Queen Square Place, Queen Square, W.C.
- MITCHELL: William Henry [Probationer 1901, Student 1906]; "The Firs," Irlam Road, Sale.
- OSBORNE: Frank John [Probationer 1902, Student 1905]; 95 Colmore Row, Birmingham.
- PENFOLD: John Thomas [Probationer 1903, Student 1904]; 13 Studland Street, Hammersmith, W.
- PHIPP: Reginald Arthur Hyatt [Probationer 1901, Student 1905]; 49 Albany Road, Chorlton-cum-Hardy, Manchester.
- SAYNER: John Harold [Probationer 1900, Student 1905]; 8 Willoughby Road, Hampstead, N.W.
- SCOTT: James Maxwell [Probationer 1904, Student 1906]; 9 Quarrendon Street, Parsons Green, S.W.
- SMITHERS: Alec [Probationer 1899, Special Examination]; 5 The Avenue, Upper Norwood, S.E.
- STELFOX: Arthur Wilson [Probationer 1904, Student 1907]; Delamere, Chlorine Gardens, Belfast.
- TAYLOR: Samuel Pinton [Probationer 1903, Student 1907]; c/o Barry Parker & Raymond Unwin, Letchworth, Herts.
- TRUELOVE: John Reginald [Probationer 1901, Student 1905]; Ingram House, Stockwell, S.W.

The following table shows the number of failures among the eighty relegated candidates in each division of the Final Examination:—

I. Design . . . . .	52
II. Mouldings and Ornaments . . . . .	68
III. Building Materials . . . . .	27
IV. Principles of Hygiene . . . . .	25
V. Specifications . . . . .	54
VI. Construction, Foundations, &c. . . . .	40
VII. Construction, Iron and Steel, &c. . . . .	20

#### Colonial Examination.

The following candidate passed the Colonial Examination held in Johannesburg last year:—

WOODCOCK: Edgar H.; Department of Public Works, District No. 4, Cradock, Cape Colony.

### BOARD OF ARCHITECTURAL EDUCATION.

#### Standard Examples of Architectural Details.

The Board of Architectural Education is prepared to consider Measured Drawings of good examples of Architectural Details with a view to purchase for reproduction and sale to students. Drawings should be addressed to "The Secretary, Board of Architectural Education, R.I.B.A., 9 Conduit Street, W."

### ALTERATIONS IN THE EXAMINATIONS.

#### THE INTERMEDIATE.

The following specific subjects will be omitted from this Examination in future:—

1. Classic Ornament.
2. The characteristic mouldings and ornaments of each period of English architecture from A.D. 1000 to 1550, with their application.
3. The orders of Greek and Roman architecture: their origin, development, and application.
4. Outlines of the history of Mediæval and Renaissance architecture in Europe.

Instead of the above, two Papers will be set on (1) the General History of Architecture; and (2) the Purpose of Architectural Features in Relation to the Buildings in which they occur.

Answers to be accompanied by explanatory sketches.

#### THE FINAL AND SPECIAL.

The following specific subjects will be omitted from the Examination in future:—

Subject II.—The principal styles of architecture: their features, mouldings, and ornament. (i) The characteristic mouldings, &c., of the special style selected by the student; (ii) The characteristic mouldings, &c., of the principal styles of architecture.

Instead of the above the following Papers will be set:—

Morning.—The Principles of Architecture: their Theory and Application. Illustrated by drawings.

Afternoon.—A written thesis. Illustrated by sketches.

The first Examinations under these new conditions will be held in June 1909.

By ORDER OF THE COUNCIL.

The above changes are the outcome of the deliberations of a joint Committee of the Board of Examiners and the Board of Architectural Education, and their object, as stated in the recent annual report of the latter body, is to simplify the examinations and bring them into line with the Board's syllabus of training published in the KALENDAR. It had been felt for some time that the headings of the subjects on the Art side of the Examinations were too precise, and rather tended to foster cramming, which the Board of Examiners are anxious to avoid. The examiners have felt themselves precluded from going beyond the exact limits of the headings of the subjects, and the candidates have been handicapped by the narrow scope of the questions. It is not intended to make the Examinations harder; but the desire of the Board of Architectural Education and the Board of Examiners is to give the candidates fuller opportunities of showing their knowledge and the results of their study than has hitherto been possible.

### Architectural Course at Sheffield University.

The Department of Architecture at the University of Sheffield has been founded at the desire of the Sheffield Society of Architects and Surveyors, which is associated with the council and the senate of the University in its management. The Board of Architectural Education have appointed as visitors Sir Aston Webb, R.A., chairman of the Board of Architectural Education, and Mr. Halsey Ricardo. The department is instituted to provide—(1) A systematic course of training for students wishing to become architects, to be taken by them before entering an architect's office, though not necessarily before they are articled. (2) An advanced and continuous course of study for students during their pupillage, and also when they become qualified assistants. Either course is open to those who are already in architects' offices. The courses are adapted to the requirements of the Institute Examinations. The University will grant certificates to students who pass its examinations. The lecturer is assisted in the work and supervision of the advanced course by leading members of the architectural profession in Sheffield.

### Glastonbury Abbey.

The Bishop of Bath and Wells is endeavouring to raise the sum of £31,000, the amount required to secure permanently for the Church of England the property on which stand the ruins of Glastonbury Abbey. The property fell into private ownership by a grant from the Crown in the reign of Queen Elizabeth, and since then has passed through many hands, until it was bought on the Bishop's behalf at the auction held on the 6th June last year.

Glastonbury Abbey was possibly the earliest Christian settlement in Britain; apparently it was protected by surrounding morasses from the invasion of the heathen Saxons until the time when these had become Christian, and were thus inclined to preserve the Christian Church. Besides being the resting place of many of our early saints and of some of our Saxon kings, it is, as Professor Freeman has written of it, the one great religious foundation which lived through the storm of English conquest, and in which Briton and Englishman have an equal share.

In a letter recently addressed to the President of the Institute the Bishop states that the Abbey is secured, but that he cannot hand it over to the Church of England until it is free from a mortgage which he had been obliged to execute. The legal estate has been vested in the diocesan trustees of the diocese, an incorporated body, who hold it subject to the directions of a committee, consisting of the Archbishop and certain other bishops, and an equal number of clergymen and laymen, who are to decide in what manner the property can be used to the best advantage. The ruins are, however, not to be

restored, and such access to them as people have been privileged to enjoy is to be permitted. The Bishop has now raised over £25,000 in gifts and promises, and an anonymous donor has generously offered to send the Bishop the sum of £2,500 on the 1st October if by that date he can obtain fresh subscriptions of a similar amount. He is anxious to obtain the required sum with the least possible delay, and will be very grateful for contributions, which may be addressed to him at The Palace, Wells, Somerset.

### Preservation of Ancient Monuments.

At a recent Meeting of the Society for the Protection of Ancient Buildings, a Paper entitled "A Reasonable Policy for Protecting Ancient Buildings" was read by Sir John Stirling Maxwell. It was impossible, he said, to read the Society's reports without suspecting that it was doing work which ought, in some measure at least, to be done by the State. That other countries did a thing was no argument why we should do it; but it was a fact that ours was the only civilised country in which the State had made no serious effort to protect ancient buildings. Our own dependencies of India and Egypt had, under Lord Curzon and Lord Cromer, embarked on careful policies of monument preservation. He alluded to the fact that since 1882 we had lived under a Monuments Act which specified certain monuments, mostly prehistoric, which might be voluntarily surrendered to the Office of Works and maintained by that Office, and said that in 1900 Parliament gave County Councils power to take charge of buildings voluntarily made over to them and to administer funds voluntarily contributed for their upkeep. The author in conclusion sketched the following outline of a scheme:—(1) We should create a Central Monument Commission for each of the three kingdoms. It would be its business to draw up a list of buildings to be classed as national monuments in each kingdom. The list would include the cathedrals, a few exceptional churches, castles, and other outstanding buildings, and a few prehistoric monuments such as Stonehenge. These would be under the direct control of the Commissioners, and none of them could be touched without their sanction. They would have a grant to administer, say, of £20,000 a year for England, and for the other kingdoms in proportion, with perfect freedom to use the money as they thought best, presenting an annual report and balance-sheet to Parliament. 2. In addition to these central bodies there should be a County Monuments Commission for each county, whose business it would be to draw up a list of the objects of interest in its own area. These might be termed county monuments. Once on the list, no building could be altered without notice and the submission of plans to the County Commission.

### Royal Commission on Ancient Monuments.

Mr. Horniman, in the House of Commons on the 3rd July, asked the Prime Minister whether, in view of the fact that he had promised to appoint a Royal Commission to report on the preservation of ancient buildings and monuments in Wales such as was already appointed for Scotland, he could now state whether he would also appoint one for England, the need of which had been pointed out to him in communications from the Royal Academy, the Society of Antiquaries, the Royal Institute of British Architects, and other societies.

Mr. Asquith: Yes, Sir; it is the intention of the Government to appoint a Royal Commission to report on the preservation of ancient monuments in England.

Lord Balcarras: Can the right hon. gentleman arrange that these three Royal Commissions shall hold a conference in order that they may agree on a uniform system of classification, scheduling, and measurement of these ancient monuments?

Mr. Asquith: I think it would be very desirable that they should confer together, and I will see that the noble Lord's suggestion is considered.

### A Correction.

The Rev. Charles F. Reeks, writing from The Vicarage, Monmouth, 15th July, calls attention to a slight error in the notice of his father, the late Mr. C. F. Reeks [F.], which appeared in the JOURNAL for 25th April. He says: "Whilst my father designed the Lodges of Windsor Great Park for the late Queen, the credit of the Mausoleum at Frogmore and Sandringham House is due to his partner alone, the late Albert Humbert, who was architect to the Priory Park."

### Architectural Copyright.

Mr. Dircks has handed in for publication the following letter addressed to him by M. Georges Harmand [*Hon. Corr. M.*] on the subject of English legislation affecting architectural copyright, to which reference was made in Mr. Dircks's account of the Vienna Congress which appeared in the JOURNAL for 6th June:—

134 rue de Rivoli, Paris: 30 juin 1908.

MONSIEUR,—Vous avez bien voulu, en rendant compte du Congrès de Vienne dans le JOURNAL R.I.B.A., citer mon nom parmi les rapporteurs. Je vous en remercie vivement.

Veuillez-vous me permettre toutefois de vous indiquer que je ne crois pas avoir dit que les Anglais ignoraient les lois anciennes qui protègent l'architecte en Grande-Bretagne? mais je crois bien avoir indiqué que vos confrères n'en avaient pas encore réclamé le bénéfice, à ma connaissance.

L'act de 1766, que j'invoque, est le premier en Europe qui ait déclaré protéger les dessins d'un

sujet d'architecture, c'est un hommage que je tiens à rendre à la législation de votre pays. Elle a devancé, en cela comme en tant d'autres choses, le reste du globe.

Mais si vous et vos confrères vous n'avez pas encore réclamé à ma connaissance le bénéfice de ce copyright, sauf dans une tentative en 1860, cela tient surtout, je crois, à ce que le rapport entre le copyright du dessinateur d'un sujet d'architecture et celui que l'architecte devait réclamer sur sa construction (*the building*) n'avait pas été tout à fait mis en évidence.

Je crois l'avoir fait clairement en 1898 (JOURNAL R.I.B.A., p. 285) et au Congrès international de Londres (1896, *Transactions*, pp. 134-152), et j'aurais dès lors bien mauvaise grâce à dire en 1908 que vos confrères peuvent ignorer l'act de 1766, dont j'ai parlé à l'Institut Royal en 1898.

Je pense surtout que l'act de 1766 ne saurait être négligeable et je ne le traiterais, vous le voyez, surtout pas d'ancienne loi, puisque l'act de 1862 en rappelle expressément les termes pour les étendre aux lithographies et autres procédés modernes de reproduction.

J'espère que vous serez d'accord avec moi pour penser que quand l'architecte est protégé pour les reproductions qu'il tire de ses dessins d'architecture, et cela résulte évidemment de l'act de 1766 confirmé par celui de 1862, il peut se considérer comme protégé pour les reproductions qu'on fera de ses dessins sur le terrain dans une construction en pierre, briques ou autres matériaux, puisque cette reproduction ne peut être faite qu'à l'aide de reproductions en lithographie, autographie, tirages en bleu ou autres, de ses dessins.

C'est cela que j'ai toujours désiré mettre en évidence, et je crois avoir été des premiers à le dire dès 1892. J'ai eu l'honneur de le dire à l'Institut Royal dès 1898.

Vous me ferez grand plaisir en me rendant justice, et pour cela il me serait agréable que vous veniez bien insérer ma lettre dans le prochain Bulletin de l'Institut Royal.

Veuillez agréer, Monsieur, l'assurance de mes sentiments les plus distingués.

GEORGES HARMAND [*Hon. Corr. M.*],  
Avocat à la Cour d'Appel de Paris.

Monsieur Rudolf Dircks.

### Obituary.

MR. ALBERT EDWARD GOUGH, Associate 1873, of the firm of Messrs. Giles, Gough, & Trollope, died on the 28th June, in his sixty-sixth year. Mr. Gough served his articles with the late Arthur Edmund Taylor, of Basinghall Street, and was afterwards assistant for about a year in the office of Mr. John Taylor, jun., of Parliament Street. He was then engaged for nearly nine years with Mr. John Norton, late Fellow of the Institute, the last three years carrying on practice on his own

account. Among his principal works at the time were premises in Charlotte Street, Fitzroy Square, on the site and over old vaults of the Percy Chapel; complete restoration of Pilton Church, Somersetshire; the premises 10 and 11 Jermyn Street, adjoining the Criterion; and extensive additions and new lodges and cottages at Compton, near Godalming. In 1872 he entered into partnership with the late Mr. John Giles, Mr. J. E. Trollope joining the firm in 1886. The works carried out in conjunction with his partners included the Colony for Epileptics at Langho, near Blackburn; fever or small-pox hospitals at Hampstead, Homerton, Carmarthen, Parc Gwyllt, Cotford, and Leicester; the workhouse at Hammersmith; the sick-asylum at Hendon; the Radcliffe Infirmary at Oxford; workhouse and infirmaries at Cleveland Street, W., Hampstead, Highgate, Chelsea, and Bethnal Green; the Salisbury Hotel, Strand; the Hôtels Métropole at Cannes and Monte Carlo; an hotel at Cap Martin; the Hôtel Bristol at Deaulieu, France; the Villa Cyrrus at Cap Martin, for the Empress Eugénie; the Château Malet at Cap d'Aglia, for Sir E. Baldwin Malet; the imbecile asylums at Caterham and Leavesden, for the Metropolitan Asylums Board; and lunatic asylums for Gloucestershire and Glamorganshire, and at Abergavenny, Cotford, Cheddleton, Talgarth, Burghill, and Bracebridge, and many other public institutions, as well as numerous colleges and schools.

Mr. FRANCIS HASLAM OLDHAM, of Manchester, *Fellow*, elected 1877, who died 30th June, was articled in 1859 to the late Mr. Neale, architect to the then Duke of Portland. In 1864 he entered the office of the late Mr. Medland Taylor as assistant, and remained with him three years. Leaving Mr. Medland he started on his own account, and quickly laid the foundations of an extensive practice, which embraced not only the Manchester district, but many parts of Cheshire and Yorkshire. Mr. Oldham was twice President of the Manchester Architectural Association prior to its amalgamation with the Manchester Society of Architects, and he served for a time on the Council of the Institute.

Mr. ALFRED DARBYSHIRE, F.S.A., of Manchester, *Fellow*, elected 1870, *Vice-President* 1902-05, died on the 5th July in his seventieth year. Mr. Darbyshire, who came of an old Quaker family, was born at Salford in 1839. He was educated at the Friends' School at Ackworth, and at Alderley, and, after serving his articles with the late Peter B. Alley, he commenced practice for himself at the age of twenty-three. Mr. Darbyshire had a considerable practice as a theatre architect. He designed and carried out the Comedy Theatre and the Palace of Varieties at Manchester, was responsible for extensive alterations at the Theatre Royal, and also at the

Prince's, of the same city. He built theatres at Rawtenstall and at Exeter, and was commissioned by the late Sir Henry Irving to alter and decorate the Lyceum. He built the Manchester city abattoirs in Water Street, and the lodges at Alexandra Park, Pendleton Town Hall, refitted and decorated Knutsford Parish Church, and restored Ordsall Hall. In conjunction with his firm, Messrs. Darbyshire & Smith, he designed and carried out Galle Castle in County Cork, and St. Cyprian's Church, Salford. Mr. Darbyshire was President of the Manchester Society of Architects in 1901-2. He was sometimes present at the general meetings of the Institute, on one occasion during his Vice-Presidentship taking the Chair in the absence of the President. In 1897 he produced an autobiography under the title "An Architect's Experience, Professional, Artistic, and Theatrical."

## CORRESPONDENCE.

### Representation of Colonial Allied Societies on the Council.

26th June 1908.

To the Editor JOURNAL R.I.B.A.,

DEAR SIR,—I believe it is a fact that though the Allied Societies in England may be, and are, by the election of a prescribed number of their Presidents, represented on the Council of the Royal Institute, none of the Allied Societies in the dominions overseas can at present be so represented. Perhaps at this stage the question of the desirability of revising these conditions might be raised with the object of giving full time for its consideration. It would doubtless be an advantage if the members overseas could feel that they had more intimate relations with the parent society. And the latter society itself, if the architects of the whole Empire were directly represented on its Council, should be able to extend its influence in connection with architectural education and other matters of general interest. In order to provide for this it might be suggested that a clause on the following lines could be inserted in by-laws to be framed under the new Charter:—

"The Council of the R.I.B.A. shall have power to provide that the Allied Societies or associations of members in any parts of the Empire overseas shall be enabled to nominate a Fellow of the R.I.B.A. resident in England for election as their representative on the Council of the R.I.B.A."

Details concerning the method of election could be dealt with under by-laws to be framed to meet the case. We should then be able to provide for a possible future development of the principle of alliance with representation. The members overseas are subscribers, but at present they have no voice in the Council.—Yours truly,

HUBERT C. CORLETTE [F.].

**Building Contracts: Builder providing Labour only.**

*Tyne and Blyth District Conciliation Board for the Building Trades: 29th June 1908.*

*To the Editor JOURNAL R.I.B.A.,—*

DEAR SIR,—I enclose you herewith a copy of a letter which the above Board is distributing among architects and others interested, and I am directed to ask if you would insert it in your valuable Paper, as it is thought that the letter will prove interesting to all connected with the building trade.—Yours faithfully,

WILLIAM H. HOPE.

The letter enclosed is as follows:—

DEAR SIR,—A joint Meeting of the Employers and Operatives has been held recently, at the request of the latter, to consider a complaint with regard to Employers undertaking contracts to find the labour only, the material being either found by the Client, or Owner, or ordered by the Architect. The subject has cropped up frequently with the men, and with a view to avoiding further friction it was resolved:—

"That representations be made to Owners and Architects and others interested, that Contracts based on Goods being supplied by the Owners and the labour only by the Contractor are detrimental to the Building Trade."

I am desired by the above Board to draw your attention to the fact that many of the Contracts submitted to the Employers for consideration, owing to their containing so many prime cost sums and other items, leave to the Builder little more than the provision of the labour, which has caused much misunderstanding with the Operatives, who complain that the working rules are being violated by the Employers.

The above Board venture to draw your attention to the terms of the resolution, and ask the favour of your support of the spirit of the resolution, which is in the best interests, they believe, not only of themselves and the trade, but of your own profession.—Yours faithfully,

W. T. WEIR, *Chairman.*

W. PATTERSON, *Vice-Chairman.*

W. H. HORN, *Employers' Secretary.*

T. WILKINSON, *Operatives' Secretary.*

**Classic Architecture at Washington.**

*Chelsea Lodge, 42 Tite Street, S.W.: 8th July 1908.*

*To the Editor JOURNAL R.I.B.A.,—*

DEAR SIR,—In Mr. Mawson's interesting paper, "English and Italian Garden Architecture," in the number of the JOURNAL for 27th June, a paragraph has caught my eye, which may be intended in a figurative sense. It is as follows:—

"Our American cousins are trying hard to set up an exemplary classic centre at Washington, but I am afraid that Cousin Jonathan's stock brick will soon show through its cement veneer," &c.

If this is intended to be a literal statement of fact, Mr. Mawson's information is at fault. It is seven years since I visited Washington, and it is possible that brick and stucco buildings may have been erected since I was there; but the buildings of the Government are, most of them, built of white marble or stone.

Classic architecture surely should not be out of place in the brilliant atmosphere of Washington, which is in the same degree of latitude as Athens.—I am, dear Sir, faithfully yours,

EDWIN A. ANNEY.

**The Woodcarver at St. Paul's.**

*258, Portland Street, Southport,  
9th July 1908.*

*To the Editor JOURNAL R.I.B.A.,—*

SIR,—My attention has been drawn to the communication of Mr. W. J. Gribble in your issue of 22nd February, and the replies of Mr. Arthur J. Bolton and Mr. Ambrose Poynter, in the number of 7th March. If not too late I should like to add a few words.

The letter from Phillip Wood to Hannah Haybittle was printed in the *Manchester City News* for 31st August 1878, and provoked a good deal of correspondence, its authenticity being challenged. It was said to have been copied from the Miscellaneous Collection of Autograph Letters in the British Museum, vol. 21, letter C., but on one of the correspondents applying to Mr. Edward A. Bond, librarian, for confirmation of this, he replied, "I doubt the existence of the letter of Phillip Wood, as printed in the *Manchester City News*. The date is of course incompatible with the circumstances mentioned in the letter. Besides this the phraseology is modern, and the mention of Shakespeare very improbable. The reference given does not correspond with any of the Museum collections of papers." The date as printed in the *Manchester newspaper*, however, was 1669, not 1699 as given by Mr. Gribble. If the latter is right it would dispose of many of the difficulties discussed in the controversy of 1878.

This controversy, however, brought out one or two interesting facts, which may be worth repetition after thirty years. It appears that Phillip Wood's letter, together with an extract from the Report of the Commissioners of Public Works concerning the building of St. Paul's, was printed in Chambers's *Edinburgh Journal*, 11th December, 1841, into which it was apparently copied from a small work entitled *Fulcher's Ladies' Memorandum Book for 1842*. The Report of the Commissioners as here given proves the existence of a "Philip Haybittle" who, subpoenaed from Sudbury, Suffolk, "deposed there he received certain sums of large amount as per receipts given during the years 1703-4-5-6-7 for carved work in the Cathedral Church of St. Paul. On enquiry from

their honours, the commissioners, respecting the difference betwixt his name and the name on the various receipts, the said Philip Haybittle deposed that he married Hannah, only daughter of Ralph Haybittle, sometime a merchant in Cheapside, and by the terms of the will of his said father-in-law he was obliged to change his name."

An account of the incident related in the letter appeared in *The Mirror* of 1827, as follows: "During the building of St. Paul's Church a country carpenter applied to the overseer of the workmen for employment as a carver. The overseer smiled at the man's temerity, hearing he had never worked in London. It was observed by Sir Christopher, who was present, who, calling the man to him, asked him what he had chiefly worked at in the country. 'Pig troughs and the like,' was his answer. 'Well, then,' says Sir Christopher, 'let us see a specimen of your workmanship in a sow and pigs.' The man returned in a few days having performed his part with such exquisite skill that he was immediately employed, and in fine executed some of the most difficult parts in the cathedral." There is no name or initials to this short account, and so presumably it emanated from the editor of *The Mirror*. The point of interest is whether the existence of the letter was known to the writer, or whether, as one of the correspondents of 1878 maintained, the letter itself only dates from about this time (1827). This correspondent called it a "clumsy forgery" and held that there was plenty of internal evidence of its being a mere invention. His criticism, however, was based principally on the letter being dated 1669, and another correspondent replied that: "by simply correcting the date the internal evidence of the letter is in favour of its authenticity." In *Good Words* for 1877 there is a tale entitled "Jasper Deane," by John Saunders, which has the letter for its foundation and in which the incident of the carving of the sow and its litter is mentioned.

I am aware that these facts do not throw any fresh light on the authenticity or otherwise of Phillip Wood's letter. I should be extremely glad if the publicity given to it in the *JOURNAL* would once and for all settle the point. Three months of desultory controversy in Manchester thirty years ago resulted in nothing final. The appeal to the British Museum proved fruitless. All that was elicited was that the letter had been printed in 1841 and that the incident related in it was known in 1827. Can anyone trace it back further than this? More important still, has anyone seen the original, or even a facsimile of it?—I am, Sir, your obedient servant,

F. H. CHEETHAM.

## REVIEWS.

### LIGHT AND AIR.

*Light and Air: A Text-book in Tabulated Form for Architects, Surveyors, and others. With full Reports and Digests of Ruling Cases. By the late Professor Hanister Fletcher. Fifth Edition, revised by Hanister F. Fletcher and H. Phillips Fletcher. 8s. Lond., 1908. Price 6s. 6d. [H. T. Batsford, 94 High Holborn.]*

Being out of print a new edition of Fletcher's book became necessary, and advantage is taken to bring this up to date—the important case of *Kine v. Jolly* (1907) being quoted and the judgment of the law lords given in full. The rightly called "all-important case of *Colls v. Home and Colonial Stores* (1904)" is now of course somewhat ancient history, but its effect will never, in my opinion, be altered, because of—if a mere layman may say so—its sound common sense. For, stripped of all verbiage, the judgment, which was unanimous from four law lords, lays it down that mere diminution of the light received by a window will not necessarily incur a penalty—either injunction or damages. The diminution must be such that it amounts to a nuisance. It must be substantial, and so as to render occupation of the part affected uncomfortable according to the ordinary notions of mankind, or, if used for business, so as to be an interference with its beneficial use and occupation. This, of course, at once draws the teeth of the mere hunter for damages—the possessor (or his advisers) of some petty unthought-of hole in a wall, possibly wired over—of whom most of us have probably had experience.

The *Colls* case was fought and decided on broad general principles—principles centuries old—for Lord Halsbury quoted a case of 1752 in which Lord Hardwicke ruled: "It is not sufficient to say it will alter the plaintiffs' lights, for then no vacant piece of ground could be built on in the city, and here there will be seventeen feet distance, and the law says it must be so near as to be a nuisance."

*Kine v. Jolly* does not in my opinion interfere in the least with the principles thus laid down. It was altogether a "special" case decided in a "special" way. It was the multiplicity of these cases that had got the question into such a tangle that people paid rather than risk the uncertainties of an action, and the bureaucracy of blackmailers battered—and fattened—on the mess created. The *Colls* case cleared up the mess, let in the light—the ancient light—and made things clear.

There have been, there will still be, cases where serious injury is done by wanton builders, and these cases will receive the attention and obtain the relief they undoubtedly deserve. Nothing will be more fatal than to suppose that the building owner can now do just as he likes because of the *Colls* case.

These and many other useful things are pointed out in the clearest way in the book under review,

which since its first publication has been, and seems still likely to remain, the text-book on the subject—at any rate for architects and surveyors.

It would be exceedingly interesting to learn from some authoritative source if the *Colls* case has caused any, or if so a marked, diminution of actions with regard to light and air.

C. H. BRODIE [F].

### ENGLISH CHURCH SCREENS.

*Screens and Galleries in English Churches.* By Francis Bond, M.A. Illustrated by 153 Photographs and Measured Drawings. 8°. 1908. Price 6s. net. [Henry Frowde, Oxford University Press.]

This is a book which everyone interested in the work of the mediæval artist-craftsman of England will wish to possess, as well for the interesting descriptions as for the wealth of illustration. Mr. Bond knows his subject, and gives in four well-written chapters the result of long and careful study. He says in his preface that it has been his aim "to present the subject from an evolutionary point of view. The story, therefore, commences with the rood and rood beam of the early Christian churches; it follows their gradual development on the one hand into the chancel screen of the parochial and collegiate churches, on the other hand into the quire screen and rood screen of the churches of the monks and regular canons. Finally it traces to the transposition of the rood lofts the galleried churches of the seventeenth and eighteenth centuries."

In the first chapter he traces the development of the choir screen from two sources, partly altar fences in several forms, records of which remain from the times when the church came out of the catacombs, and partly from the supports under the beam which carried the rood and the attendant figures. He gives other suggestions for the origin of screens that have found favour, but which seems perhaps less natural; and he tells of the practical use of and reason for the popularity of the screen.

Chapter II., the bulk of the book, is about chancel screens and galleries in parish churches. The various forms and uses of screens are described, the relative merits of stone and oak are discussed. The construction of oak screens is briefly described in a short clause, and there is an interesting clause on the cost of screens. Then comes a description of the screens of East Anglia, Devon and Somerset, and the Welsh screens, the three districts in which most are found, with an account of the carved and painted ornament. Under the heading "Chronology of Screens" we learn that parochial screens began in the thirteenth century in England, but very few were built before 1815, and in Devon none remain of earlier date than the fifteenth century, and few before the late years of it.

Screens were built in those parts of England

where there were peace and prosperity, and "when people thought nothing too good for their religion and their church." "It was not till Hanoverian days that screen building died away."

The rood, the rood beam, and the rood loft are each described in a separate clause together with the approaches to and the use of the loft.

The author gives an interesting account of "tympanic screens," i.e. those solid screens usually painted which filled the chancel arch, to which the holy-rood and the attendant figures were fixed.

The destruction of screens is sad reading, and it is perhaps best not to dwell on it. Mr. Bond gives the cold facts of how this hateful work begun in 1547 has gone on till the present time. He tells how several of the rood lofts were turned into galleries and private pews, how others were moved to the west end of the church for the parish band and choir; how later new galleries were built in this position, and how side galleries were a natural development.

He gives an interesting account of some of the parish bands and the instruments and music they played.

Chapter III. is about choir screens of churches of secular canons. "There is no marked difference between the choir screens of the parish churches and those of the greater collegiate churches and the cathedrals of the old foundation, except that the latter are on a grander scale, are of solid stone, always had lofts, and were used much more extensively in consequence of the greater elaboration of collegiate and cathedral services."

The last chapter tells us the differentiation of screens in the churches of monks and regular canons. "It is largely from ignorance of or indifference to" the fact that the arrangements of the churches of the regulars were quite different from those of parish churches "that so much confusion has been introduced into the history of English church screens; what was true only of monastic screens being assumed to be true also of collegiate and parochial ones. Even when it is recognised that there was not one but at least two distinct screens—one the pulpitum or quire screen, the other the rood screen—in a church of monks or regular canons, the two are constantly confounded." "In order to avoid such confusion it may be suggested that in future, where there are two screens, the terms *pulpitum* and *quire screen* should be confined to the eastern, and the term *rood screen* to the western of the two; while, when pulpitum and rood screen are blended in one, as in a parish church, it should be spoken of as a *chancel screen*. The pulpitum differed from the rood screen in many ways. It formed the eastern barrier of the quire, and against the eastern face of it were placed the return stalls, i.e. those facing east of the greater officials of the house. It was much broader than the rood screen, often occupying, when placed

in the nave, a whole bay, e.g. at Norwich, while the rood screen was often merely a wall between two piers: it is described as a wall in the *Rites of Durham*. The pulpitum always had a spacious loft above it and carried the organ. Down below it there was a single central passage through into the quire. On its western face there was a side altar on either side of the central doorway." "The

rounding buildings, the monks or canons entered the nave by the western of the two doorways leading from the cloister, and marching up the nave in double file took their stand on the double row of processional stones laid for that purpose down the centre of the nave, and there made their principal 'station' before the Jesus altar. Then they passed in two files through the two doorways of the rood



MIXCHELLE.

From Mr. Francis Dodd's *Screens and Galleries in English Churches*.

rood screen was normally a solid wall with a little doorway on either side; . . . above it was a loft; above the loft was the great rood and the Mary and John; between the side doorways was a central altar. . . . It was sometimes called the Jesus altar. . . . Towards the end of the great Sunday procession, when all the rest of the church had been perambulated, as well as the cloister and its sur-

rounding buildings, the monks or canons entered the nave by the western of the two doorways leading from the cloister, and marching up the nave in double file took their stand on the double row of processional stones laid for that purpose down the centre of the nave, and there made their principal 'station' before the Jesus altar. Then they passed in two files through the two doorways of the rood

screen, when the procession formed in double file and passed through the single central doorway of the pulpitum, and, then filing to the right and left into their stalls, commenced High Mass."

The book begins with a good bibliography and ends with an Index locorum and an Index rerum, and has in addition many very good illustrations extremely well selected.

I notice that metal screens find no place. It is true, of course, that metal was not used in England for chancel screens, but there are very beautiful fence screens of wrought-iron in some cathedral churches.

evidence to prove that these beautiful screens were the work of Englishmen generally living and working in the neighbourhood. I have long been convinced of this, and, further, I believe that, given similar conditions of training and work, in a couple



KENTON.

From Mr. Francis Bond's *Screens and Galleries in English Churches*.

It would add to the interest and value of the book if, in another edition, Mr. Bond could describe the methods and the mediums of the painters of the East Anglian screens. He tells just enough to make one want to know more. He brings strong

of generations Englishmen could do as good and as beautiful work again. One may perhaps hope that a future edition, which will certainly be wanted soon, may not be printed on clay-paper.

CHARLES SPOONER [F.].

## THE FRANCO-BRITISH EXHIBITION OF SCIENCE, ARTS, AND INDUSTRIES, LONDON 1908.

By J. NIXON HORSFIELD [A.].



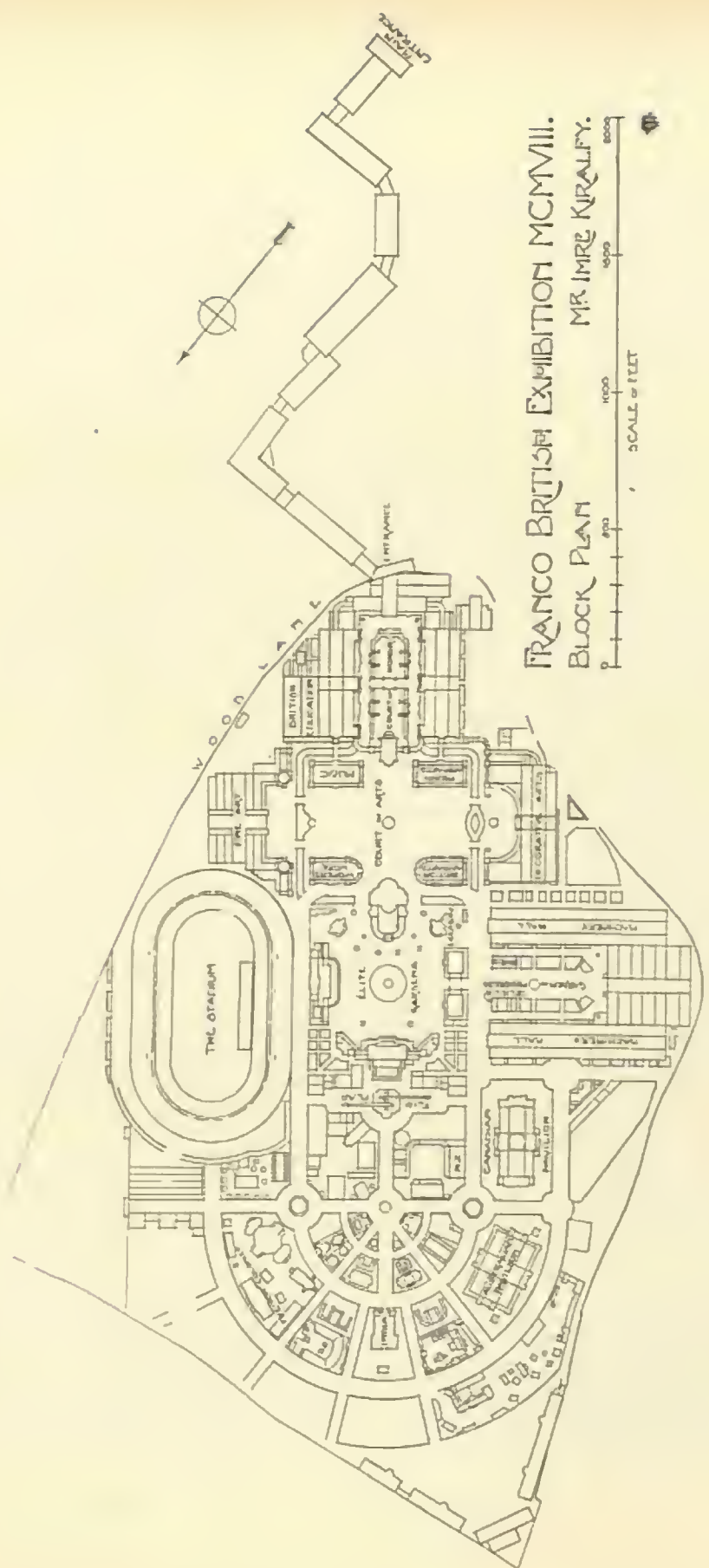
FRANCO-BRITISH EXHIBITION : BALLOON VIEW.

Photo. Windsor, Chiswick.

THE Duke of Argyll, in his inaugural address at the Seventh International Congress of Architects, said:—"Architecture is a great art, one which allows of no shirking. There is no such thing as impressionist architecture. It is an art which is thorough, real, and earnest. I do not think we need be ashamed of what we can show our friends from abroad in the shape of English architecture." With that appreciative statement an English architect will not disagree; on the contrary, he will endeavour to achieve the ideal which it suggests, and to justify its utterance. Nevertheless he will observe that there is an exception, and strangely enough, as Honorary President of the Franco-British Exhibition, his Grace has been brought into touch with the greatest opportunity for impressionist architecture which has occurred in this country. Here was a field wherein to sport with an architecture that was neither real nor thorough, expressly to show our friends from abroad what we could do. Such opportunities are rare, but when they occur they relieve architecture of the restrictions which are sometimes responsible for failure, but occasionally are directly conducive to success.

One must envy any man the chance to model in plaster the fantasies which he dare not attempt in stone, to make experiments which he dare not risk in serious work, and to revel in a grandeur of size and scale which is not permitted by the cost of permanent building. An international exhibition is the only opportunity for attempting, in a tangible form, such unlimited conceptions as are annually wasted in competition for the Tite Prize and Soane Medallion. This country seems to be denied such opportunities. Our form of government does not appear to be adapted to fostering artistic efforts. The Government did not take official cognisance of the Congress of Architects in London, and one gathers that it is not officially aware of the Franco-British Exhibition. Nevertheless that exhibition approximates to the status of the International Exhibitions of Paris, St. Louis, &c., and at the least is one of first-class importance, giving rise to hopes of great things. Unfortunately, however, if such hopes have been engendered, they have been cruelly disappointed.

Our friends from abroad will not experience a sense of welcome such as was expressed by the monumental entrance which graced the Place de



FRANCO BRITISH EXHIBITION MCMVIII.  
BLOCK PLAN  
MR IMRE KIRALFY.

0 500 1000 1500 2000  
SCALE OF FEET

la Concorde in 1900; they will miss the sense of breadth and freedom which was expressed by the uninterrupted lines stretching from the Trocadéro to the Cascades of the Electric Hall, and from the Champs Elysées to the dome of the Invalides; and, above all, they will miss the sense of grandeur and importance which can be given only by extravagance of size and greatness of architectural scale, such as was maintained at St. Louis. It is true they will not be met by the bare and business-like row of turnstiles which confronted

The Exhibition might have formed a decisive step towards the "education of the public in architecture," an object which has been recently discussed, and which we all support, not from a morbid desire for public admiration, but because it is a necessity for the progress of the art we serve. As it is, it may do something in that direction, but it might have done a good deal more.

It is difficult to imagine what the point of view of the average visitor may be. One might expect to find a painter or sculptor enjoying the collection



THE COURT OF HONOR.

Photo. F. N. Dineen, Shepherd & Bush.

the visitor to Louisiana. They will find an entrance, in fact they may find two entrances, and be consequently perplexed, but they will find that the views are limited, that the buildings are squat, and that even such details as lamp standards and seats are of commonplace pattern, showing no attempt to help an advance in public taste. It is to be hoped that they will not regard the Exhibition, as a whole, as representative of architecture in England, for this splendid occasion for unfettered design on a grand scale has been lost to English architecture, and it is painfully apparent that the factor of cost has not been excluded.

of masterpieces in the Fine Art Palace, or to find a musician watching the talented conductor of the band in the Elite Gardens, or a farmer's son contemplating emigration in a Colonial Pavilion: for certainly, whatever a man's calling may be, he will find something to his taste, and the best of its kind; but the Exhibition as a whole should have been so conceived that every visitor would have been indelibly impressed by a powerful architectural composition.

The general plan is a good one up to a point, and it may be noted that it bears a striking resemblance to that of a cathedral, with features



Photo. F. N. Barrett, Shepherd & Bush.  
Side Entrance to French Applied Arts Palace.



FRANCO APPLIED ARTS PALACE. LOWELL G. DETMAR, ARCHITECT.

Photo. Hudson & Evans.

corresponding to aisles, transepts, and chevet. The main axis, however, is interrupted by a series of cross-buildings. It is a pity that the man who adopted (perhaps from Margate) the simple and successful idea of placing a handstand in an excavated arena is responsible for having interrupted what might have been a magnificent view from end to end of the grounds. However, a comprehensive idea of the show can doubtless be gained from a balloon.

It includes the work of French and British architects of high attainments. According to the official catalogue, the Architect-in-Chief (in collaboration with Mr. Kiralfy) is M. M. Toudoire, with whom were associated the following:—MM. E. Coste, Duquesne, A. Lévay, C. Martello, Edouard Crevel, Joulin, Maurice Lucet, René Patrouillard, G. Thorimbert.

The Hon. Consulting Architect was Mr. John Belcher, A.R.A., Past President R.I.B.A. (Decora-



BRITISH APPLIED ARTS PALACE. JAS. B. FULTON, ARCHITECT.

Photo. F. M. Dixon, Shepherd's Bush.

I am informed that the block plan was devised by Mr. Inno Kiralfy, the Commissioner-General of the Exhibition, and that he not only allocated the sites of the buildings, but actually ordered their steel framework, thus fixing their dimensions and general form. Then, and not until then, were architects consulted. It is due to the architects who have been engaged to point out this unfortunate example of the vulgar error of putting the wrong end of the stick before the horse.

With the very severe initial handicap above described, the architectural work was arranged in an

tive Arts Palace &c.\*), with whom were Messrs. Lionel G. Detmar [A.] (Palace of French Applied Arts), Jas. B. Fulton [A.] (British Applied Arts Palace), and C. Gascoigne (British Education Building\*). I have not been able to ascertain for which building each of our French confrères is responsible, but Mr. Belcher has kindly indicated how the work was apportioned between the British architects.

\* The author much regrets that these buildings were not completed in time for photographs of them to appear in the present paper.

The main entrance is at a considerable distance from the grounds, to which it is connected by a series of halls built above the ground level, thus forming a long, crooked passage or Chinese bridge in which many exhibits are displayed. On paper it appears to hang to the main plan as a tail hangs to a kite. The point of juncture is the secondary or Wood Lane entrance. This entrance leads immediately to the Court of Honour, a small quadrangle surrounded by buildings treated with façades in the kind of Indian architecture that

which is to be seen at the other end of the central axis.

The next group of buildings surrounds a considerable area of landscape gardens called the Court of Arts, and it is there that Architecture has her best display. One could wish that the buildings were some twenty or thirty feet higher, so as to bear a more suitable proportion to the area they enclose, and that they were so decorated as to introduce masses of Pompeian colour. Those to the left are the work of the British architects, and



Photo. F. N. Birch & Co., Shepherd's Bush.

BRITISH AND DECORATIVE ARTS PALACE. JAS. B. FULTON, ARCHITECT.

one associates with Earl's Court; indeed it appears to be the work of the man who designed the Indian buildings at that Exhibition. It is rich in crisp detail, to some extent recalling Byzantine foliage. The quadrangle contains an area of water spanned by a bridge; and the surrounding pavement, which is identical with that of the Digue at Ostend, connects to a series of piers over the water. Every possible feature is surmounted by a dome or cupola, and the whole gives a very lively, though somewhat cramped and crowded, effect. Strangely enough it does not include the Indian Pavilion,

those to the right are French; and it is encouraging to note that the British work does not suffer from its propinquity to that of our talented neighbours. Perhaps the French architects have become used to indulging their fantastic ideas in buildings of this kind, and have in this case overstepped the mark and become a bit eccentric, while certainly the British efforts are not to be classed as "exhibition architecture," although they are gay and original. I am particularly fond of the screen colonnade connecting the Decorative Arts Palace to the Indian Court. The building at each end has

a flat dome, and the intermediate buildings have towers. The tower of the Palace of Music has a remarkable gridiron treatment, which, no doubt, is intended to suggest some weird instrument of music; and the towers of the Palace of Women's Work are suggestive of cones of menthol, while the corresponding towers on the British side of the axis are freely ornate but more strictly architectural. The group of six towers thus formed seems to fail, because they are all of very much the same size,

does not appear to be any *motif* for this canal, so it may be concluded that it was created as an excuse for the mediocre bridges which cross it, and the positively ugly boats which perambulate its course. If each bridge had formed part of the architectural scheme of the building to which it gave access, the canal would have been welcome, but they are of a stereotype pattern, with blind balustrades awkwardly cutting into the archivolt mouldings, and with spandrils filled with stalactic



THE CANADIAN PAVILION.

Photo. Hudson & Kearse

and lack a dominant feature to pull them all together. Each building considered apart has distinct merit, but together they are lost. In the same way each division of the Exhibition grounds has merit, but that merit is not accumulated, and therefore does not tell.

In an obscure position the British Education Building is being erected, and promises a simple and scholarly façade.

The Court of Arts is intersected by two sides of a square canal, or, to use the flattering official designation, lagoon, which has been cut in connection with the lake of the Court of Honour. There

ornament which hardly comes up to the level of the decorations of an aquarium grotto at a seaside resort. Where the canal passes the front of the Decorative Arts Palace it is divided to form an island, for which Mr. Belcher had prepared an interesting design based upon the well-known form of a classical ship: but I understand his project was abandoned, presumably on the ground that it would be unproductive.

The Élite Gardens are surrounded by very ornamental clubs and restaurants, and at one corner is a noteworthy little building called the Pavillon Louis XV. On one side is the Stadium, which

has not been finished, by a screen wall as was apparently contemplated; so that we do not see whether an architect of to-day could profit by the unsuccessful treatment of the Colosseum at Rome, and show how it ought to have been done. This is to be regretted, for in its present state the Stadium is hidden by the neighbouring buildings to such an extent that one hardly realises that it is there. The concurrence of the Olympic Games and the Exhibition in this country is no mere

the gem of the Exhibition, namely the Pavillon Delieux. This pavilion, a design of M. Toudoire, is essentially an exhibition building, engaging, attractive, and expressive of its purpose. The Collectivité André Delieux is particularly interesting to architects. It seems that about a year ago M. Delieux decided to take an active step as patron of struggling artists, and to give them an opportunity to exhibit at Shepherd's Bush free of cost. Accordingly, he has at his own expense



PALACE OF MUSIC. C. MANTUANO, ARCHITECT.

Photo. F. N. Bicknell, Shepherd's Bush.

coincidence, and the connection between the two should have found architectural expression by means of a mutual entrance-way which would have added to the success of both. The Stadium is stated to have accommodation for 68,000 spectators, and its size can be gauged by comparing this figure with that of the Roman Amphitheatre, which is estimated by Fergusson at 50,000 seating capacity.

On the other side is the Garden of Progress contained by the Machinery Halls. In this garden is the City of Paris Pavilion, which does not come up to the traditions of that city; and opposite is

collected together from some two hundred designers examples of modern furniture, metal-work, jewellery, pottery, enamels, glass, tapestry, lace, &c., brought them to London and exhibited them in this delightful building. The whole of this exhibit naturally and intentionally shows the combined effort of what may be described as the "Arty-Crafty" School. We must all sympathise with and admire the ideal of invention untrammelled by tradition, and here it is shown that tradition may fitly take a second place, although of course its lessons must ever be remembered.

In the "Chevet" are the Pavilions of the Colonies, notable among which is the Canadian building, which escapes the general fault of being under scale. The keystones are too big and the dome is much too small, but it is a fine building and contains a fine exhibit.

The French Colonial buildings, on the other side, are also full of interest, and there is a very nice doorway to the Palais des Colonies. The greater part of this end of the Exhibition, however, consists

of the kiosks are very dainty. It is to be regretted that kiosks are practically unknown in our streets. They would be very useful, for example, at street corners and tramway junctions, and would add a touch of colour and gaiety to a workaday London.

Some of the daily papers are represented. The architect of the *Daily Telegraph* building has given a dignified and refined treatment suitable to the paper; but with the deplorable examples of Pisa and Ravenna before him he really ought not to have



Photo. Eyottimood, Dixon & Harding, Ltd.

GRAMOPHONE PAVILION. FRANCIS A. SWALEP, ARCHITECT.

of a sort of apsidal Pike, with all the side attractions inseparable from an exhibition.

It seems that every exhibition must necessarily be associated with some mechanical monstrosity, and in this case the "Flip Flap" marks a great advance on its predecessors, inasmuch as it is intermittently obscured. Nevertheless this colossal pair of dividers is to be seen from time to time bisecting the heavens.

Of the smaller buildings those of the Gramophone and Perrier Companies serve to show what can be done with a simple idea in a lesser way, and many

designed an oval dome. From any point of view it seems to be out of drawing. Contrasted with this is the ornate pavilion of a paper to which *Mr. Punch* referred as "a bright little sheet." Here a number of aggressive and inconsequent features lead up to an advertisement.

Within the buildings the French are at a great advantage in having their goods displayed in groups of showcases of simple uniform design. The stand of the Byrrh Company, however, is unique, and M. Emile Bertrand is to be congratulated upon its success. The English exhibits



*Photo. F. N. Hiskell, Shepherd's Bush.*

PALACE OF WOMEN'S WORK. MAURICE LUCOT, ARCHITECT.



*Photo. F. N. Hiskell, Shepherd's Bush.*

PAVILION LOUIS-QUINZE.

have not been brought into line in this way, and the stands show the uncontrolled efforts of shop-fitters clashing harshly together.

An instructive experiment in illumination was tried at St. Louis, where the colonnades were fitted with a row of lamps up the back of each column, like the buttons of a lady's dress. In elevation the result was delightful, and by day the bristly and

effective, especially in the Court of Honour; and as the long summer twilight fades into night the infectious gaiety of the cosmopolitan throng around the bandstands helps the illusion that even we Britishers can lose ourselves in dreamland.

This country initiated the idea of an International Exhibition in 1851, and the unmistakable sky-line of the Crystal Palace may still be seen from the



*Photo. Halsey & Koenig*

PAVILION OF THE COLLECTIVITÉ ANDRÉ DELIEUX. M. TOUSSAINT, ARCHITECT.

unshaven effect of the usual outlining in lamps was avoided. This idea of luminous inversion has been carried to its logical conclusion at the National Opera House at Paris, where the lamps are concealed, but so placed as to light up the spaces which by day are in shadow, thus turning the façade inside out like a photographic negative. No advance has been made in this direction at the Franco-British Exhibition, but the illuminations are very

Downs, but it is doubtful whether we shall ever again have an international exhibition officially authenticated which will hold its own among the fairs of the world. It will certainly be unnecessary if Paris continues her series of exhibitions at intervals of a decade, as I sincerely hope she will, for there is nothing at Shepherd's Bush which will give her an excuse for omitting the Fair due in 1911.



CHRISTCHURCH PRIORY AND THE NORMAN HOUSE.

[Photo. Carl Norman.]

## THE CHURCH OF THE HOLY TRINITY, TWYNHAM, COMMONLY CALLED CHRISTCHURCH PRIORY, HAMPSHIRE.

By G. J. COOMBS, A.R.C.A. (Lond.).

HEAD OF DEPARTMENT OF ARCHITECTURE, LEEDS SCHOOL OF ART.

Read before the Leeds and Yorkshire Architectural Society, 16th January 1908.

**T**HIS fine priory church, which gives its name of Christchurch to a small town in the south-western corner of Hampshire, about four miles east of Bournemouth, is situated just above the junction of two rivers, the Dorset Stour and the Wiltshire Avon. As the surrounding country is low-lying, the size and position of the building make it a very prominent object for a good distance round, especially from the seaward side. From the tower on a fine day a splendid view is obtainable; to the south and west is the stretch of sea between Hurst Castle and the Isle of Purbeck; to the east and north extends the vale of the Avon, with the borders of the New Forest on the one hand and the wooded country towards Hurn on the other. It is surprising that it is not better known, for it is in a remarkable state of preservation, and comprising as it does examples of every period from the Saxon or Early Norman of its crypts to the Early Renaissance of its chantries, it forms an excellent place of study for any architectural student. Welby Pugin was intimately connected with the church, so that it is very probable that the revival of Gothic architecture owes more to this building than is generally recognised. The present altar table was given to the church by Pugin, and is his own design and handiwork. Permission to sketch or photograph is readily granted by the present Vicar, and students are given every facility for study.

### FOUNDATION, &c.

The origin of the church is lost, as in many other cases, and it is difficult to fix definite dates owing to the scarcity of documentary evidence. In some instances dates given in wills help to fix with more certainty the dates of various parts, and the dates of the dedications of some of the altars are known.

As seems to be the case with most ancient buildings, legends have accumulated round the early part of its history, and some of these are interesting. According to one legend, even the site of the church was chosen by miraculous means. It was intended, so it is said, to build the church on St. Catherine's Hill, an eminence nearly two miles away from its present site, but the stones that were laid during the day were removed during the night to the present site, and so it came about that the building was erected on the flat lands of Saxon Tweoxnea, or Twynham. Supernatural happenings did not cease even when the human builders began to erect the church on the site thus chosen, for the legends tell how a stranger workman helped in the work, but never was he seen to eat with the other workmen, neither did he ever come to receive payment for his work. On one occasion a beam had been cut too short for the position it had to occupy, and was left during the night; but when the workmen came the next morning it was lengthened and up in its place. The beam reported to have been lengthened in this way is still pointed out in the church. It is said to have been one of the roof timbers of the Norman apse to the choir, but now is seen in the later part of the church over the ambulatory, the old timbers, when sound, having been used in later work. These happenings led the clergy to come to the conclusion that the stranger workman must have been the Second Person of the Trinity Himself, and the building He had helped to erect was dedicated to Christ, as well as to the Holy Trinity, and the name of the town altered from Twynham to Christchurch.

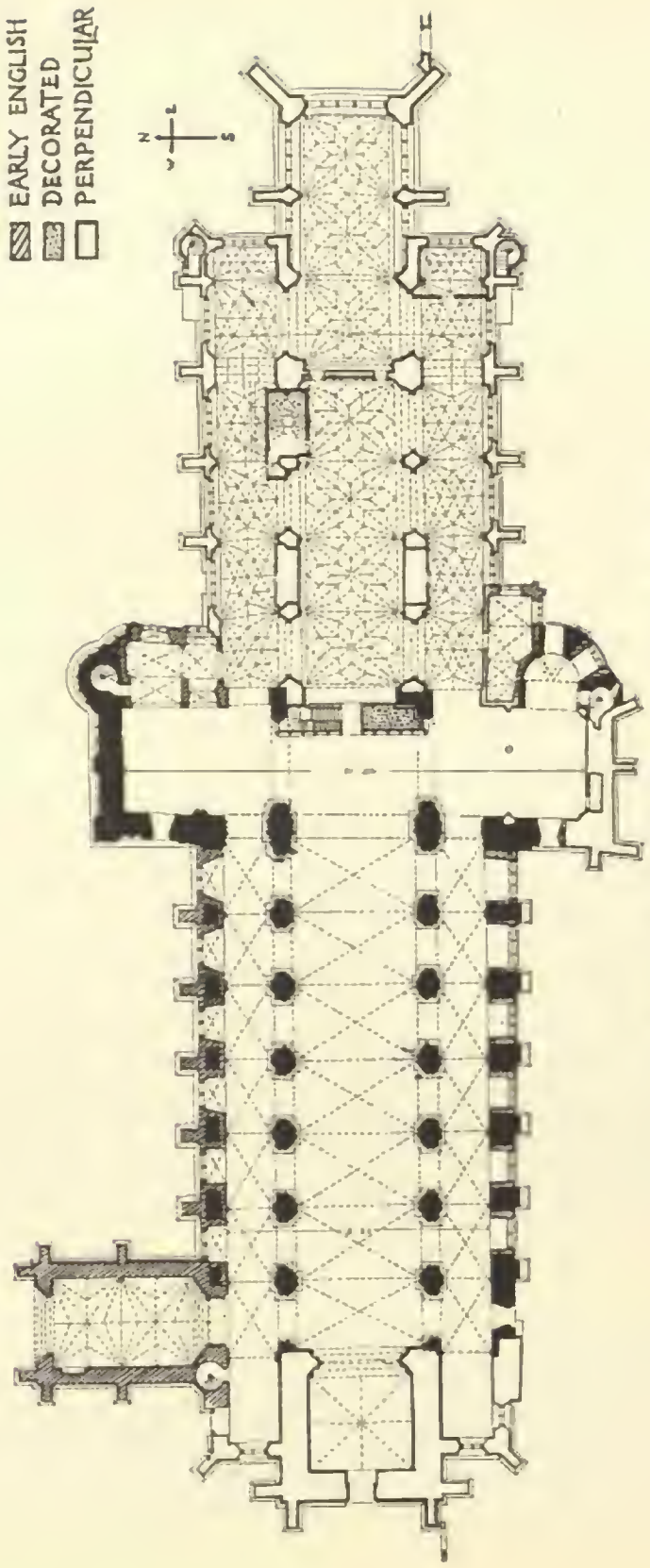
It is difficult to draw the line between myth and historical fact, so uncertain is the evidence relating to the early history of the church; hence no date can with certainty be assigned to the foundation. It has been attributed to Æthelstan, but this hardly appears probable. What is certain is that in the time of Edward the Confessor there was a church of the Holy Trinity at Twynham held by a dean and college of secular canons.

According to the legend, it had been at first intended to dedicate the church to the Holy Trinity, and this, in all probability, was done as well as specially dedicating it to Christ. In Domesday Book the double name occurs, while at a later period the high altar of the canons was dedicated to the Holy Saviour, and the high altar of the parish to the Holy Trinity.

Whatever church was erected during this early period was swept away by that famous builder Ralph Flambard, Dean of Christchurch, afterwards Bishop of Durham, to make room for a Norman building, and this formed the nucleus of the existing building. The college of secular canons held the church until 1150, when, in the time of Dean Hilary (afterwards Bishop of Chichester), the secular canons were replaced by Augustinian canons, and the church became part of an Augustinian priory. This change was made in accordance with the wishes of Henry of Blois, Bishop of Winchester, the grandson of William the Conqueror, and who is remembered by having founded the Hospital of St. Cross, near Winchester.

As a consequence of the dissolution of the monasteries, the church was handed over to the parish as the parish church by a grant to the churchwardens, 23rd October 1540; and since then practically all building operations have been restorations. The church being handed over in this way was saved from the destruction which was the lot of many similar buildings at this period. The domestic buildings and cloisters belonging to the monastery gradually disappeared, and now there are no traces of them to be seen except a house which was formerly the porter's lodge: this stands some distance to the west of the tower, and in a line with the south wall of the nave. It was built by one of the priors in the sixteenth century. In modern times (*circa* 1775) a house has been built on the site of the monastery, and so it hardly appears probable that the plan of the monastic buildings will ever be completely excavated, though in digging for the foundations of this house a good deal of the plan was unearthed.

- NORMAN
- EARLY ENGLISH
- DECORATED
- PERPENDICULAR



SCALE 0 10 20 30 40 50 60 70 80 90 100 of feet

FIG. 1.—CHRISTCHURCH PRIORY: PLAN.

## HISTORY OF PRESENT BUILDING.

In dealing with the existing building I shall endeavour to trace its development from its foundation in Saxon times to its present condition.

## NORMAN.

The present building was commenced without any doubt by Ralph Flambard about 1098, on the foundations of Saxon buildings which were destroyed to make room for the new

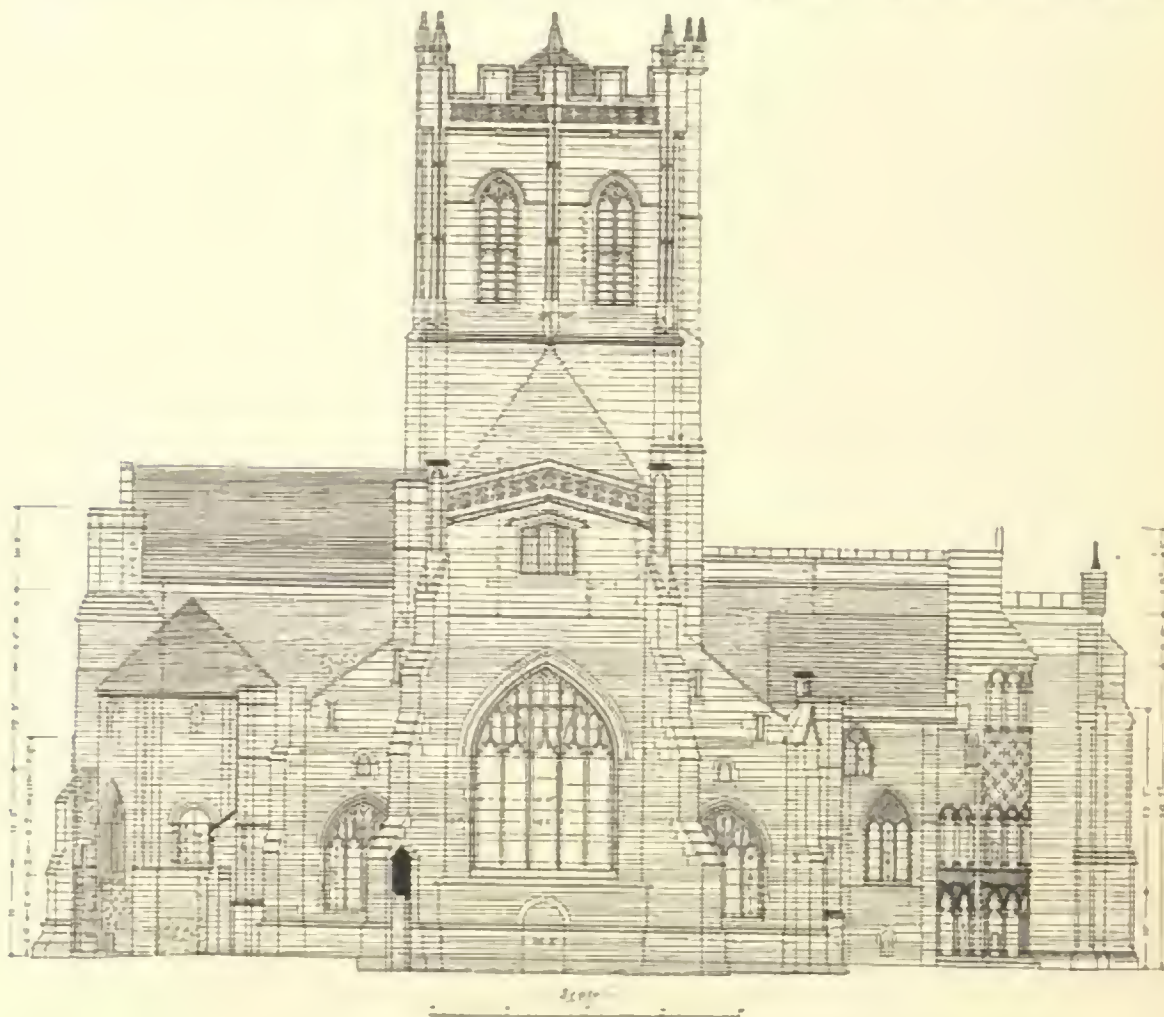


FIG. 4.—CHRISTCHURCH PRIORY: EAST ELEVATION.

church. Flambard may have started building this church before being appointed Bishop of Durham, but Sir Gilbert Scott was of opinion that Christchurch was commenced after 1099, the year of Flambard's succession to the bishopric, and that Flambard copied or adapted at Christchurch the work he found already built at Durham.

Of the church planned by Flambard a great portion is existing at the present time, the nave, transepts, and apsidal ends of crypts under both transepts all being Norman, though with

additions and alterations of later date. The plan was traditional, consisting of nave, aisles, transepts with apses on east walls and apsidal east end, with probably a tower at the crossing. The parts of this church still remaining form an excellent example of Norman work, being bold and massive, with typical ornamentation in capitals, &c. The crypts under the presbytery and transepts are the earliest portions of the building, probably being remains of the Saxon church; the two under the transepts have each a later apsidal east end, and are covered with rude barrel vaults with arches thrown across at intervals to strengthen them. Both of



FIG. 5.—CHRISTCHURCH PRIORY: WEST ELEVATION

these crypts have been used for burial purposes; they are about 33 feet by 13 feet, the north one being 9 feet 8 inches to top of barrel vault and the north one 8 feet 7 inches, though originally they were higher, the floor having been raised. The vaults spring from a rude impost mould, there being no capitals in either crypt, except two simple cushion capitals in the north crypt to receive the vaulting ribs of the apsidal end.

The north crypt is the better lighted of the two, having small deeply splayed windows on the north side and at both ends. The crypt under the south transept is much worse off as regards light, having only one small window and a sort of light let into the sill of the apse window above.

The crypt under the presbytery I have been unable to examine, as it is the family vault of the Earls of Malmesbury, the key being kept in their possession. The advowson of the parish was purchased by one of the ancestors of the present Earl in the nineteenth century, and the holder of the title takes the great tithe, amounting to about £4,000 per annum, while the Vicar has to be content with the small tithe, which only amounts to a very small fraction of the great tithe.

The nave is a splendid example of Early Norman, built chiefly in the reign of William Rufus, but the clerestory was added during the Early English period. There are seven bays in the nave, all of them being Norman. Originally there were nine bays, the western one

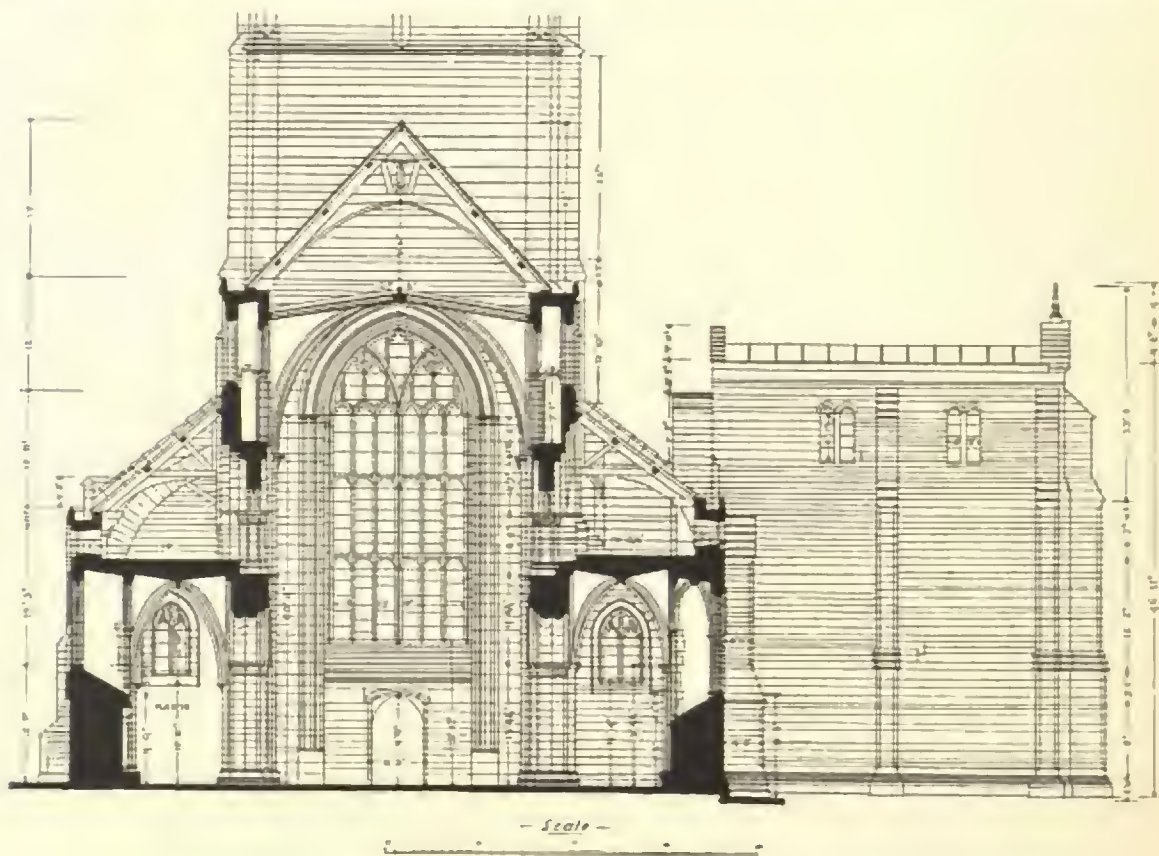


FIG. 6.—CHRISTCHURCH PRIORY: SECTION THROUGH NAVE.

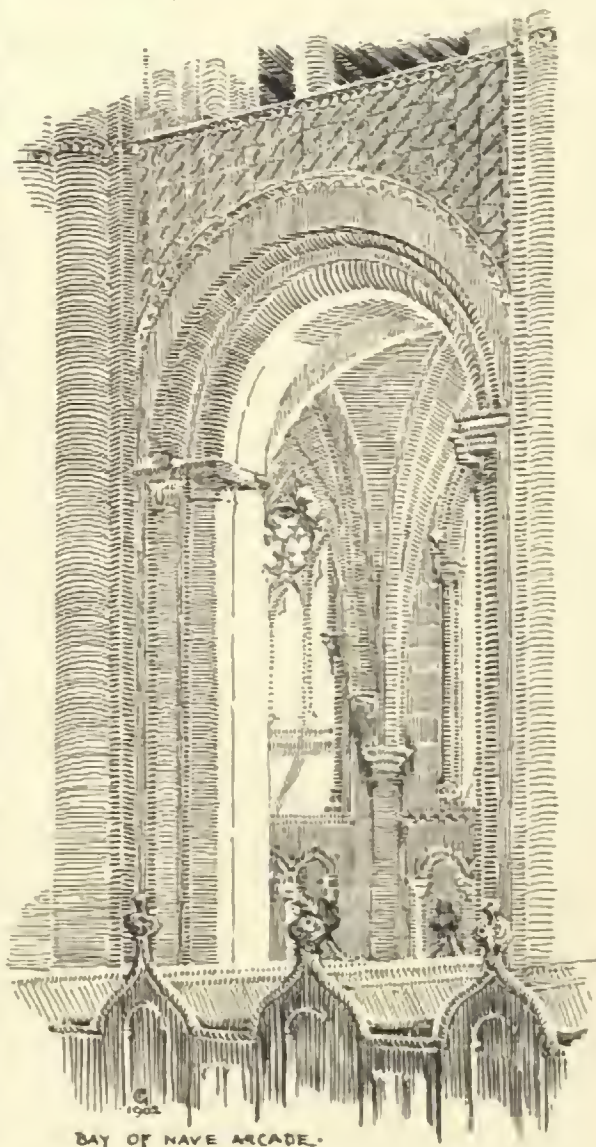
being smaller than the others, the original west front extending beyond the west wall of the existing tower. Before the present tower was built the west front was destroyed; the tower was built within the church, taking up the space of the last two western bays of the original nave. The piers are rectangular in plan, with coupled semicircular shafts attached on all four sides, the pair facing the nave being carried up to the clerestory level to form vaulting shafts, and being capped with Early English capitals. In all probability there was a flat ceiling at this level before the clerestory was added.

The half shafts on the east and west sides of the piers are continued round the arch above the capitals, and form the arch-mould of the nave arcade. The average size of these piers is about 7 feet by 6 feet; but those at the crossing, probably being intended to carry a

Norman tower, are much larger, being about 11 feet 9 inches by 6 feet 8 inches. The structural evidence as to the intention of the builders to erect a tower at the crossing is strong, for besides the evidence of these large piers there is the fact of the east wall of the crossing being carried up above the roof of the original choir as if forming the eastern face of the tower, and being pierced by two semicircular-headed windows. Though the structural evidence is strong in favour of the intention to build a tower, there is little documentary evidence to prove definitely whether the tower was actually erected or not, though on the seal of the church is represented a Norman church with a central tower, and similar representations are seen on later bosses, &c., in various parts of the church. The capitals of the nave piers are various: some are carved with grotesque decoration, but the majority are simple cushion capitals. The moulded bases of the piers are partly hidden at the present time by the pews. The spandrels between the arches of the nave arcade and the string-course of the triforium level are filled in with a simple diaper of hatchet work.

On both sides of the nave the triforium consists in each bay of two semicircular arches supported by a central shaft and enclosed by a semicircular arch with bold moulding springing from engaged shafts. The easternmost bay on the north side is the most beautiful, and is a fine specimen of Decorated Norman work: it is enriched with scalework in the tympanum between the small arches and the enclosing arch. The subsidiary arches are also enriched with the billet moulding, and the central shaft is enriched with twisted decoration. It is most probable that the corresponding bay on the south side was equally richly decorated, but the central shaft and subsidiary arches were removed about 1820 to make room for a faculty pew. The richness of this bay is accounted for by the fact that this bay of the nave was included in the original Norman choir of the church, and this, as was customary in churches served by Augustinian canons, was the church of the canons, the nave being used for services attended by the laity. The shaft and subsidiary arches of the next bay on the south side were also destroyed about 1820 for a faculty pew, but have since been renewed.

The capitals of both triforia exhibit great variety of treatment, and are much more elaborate than the capitals of the nave arcade. A staircase entered from the western part of



BAY OF NAVE ARCADE.

FIG. 7.—CHRISTCHURCH PRIORY.

the aisle leads to the north triforium, and is also continued to the parvise, now used as a choir-room, over the porch as well as to the roof of the tower. The south triforium can only be reached by the use of a ladder, the staircase having been walled up.

The north triforium has several features of interest: pointed arches have been added to the thickness of the wall between the buttresses, probably when the clerestory was built; the floor is very uneven through humps necessitated by the Early English vaulting of the aisle, and at the east end is an arch which once opened out to the transept, but now is walled up. Traces of colour decoration can still be seen on this arch as well as on some of the piers of the nave arcade. The walls of the aisles are carried up several feet above the level of the triforium floor, and are pierced by several small semicircular-headed windows or loops spaced irregularly on the north side, but more regularly on the south side. These windows are Norman and remained unaltered when the aisle walls were refaced in Early English times.

The aisles have been very much changed from the Norman originals, the north aisle being pierced with fine late Early English windows, and both aisles were vaulted at an early period of the Early English style. This will be considered in detail when dealing with the later work.

The south aisle has arcading along its whole length, but much of the original work has disappeared, its place being taken by modern restoration. One of the original Norman windows still remains in the western bay, but the places of the others are taken by windows inserted by B. Ferrey in imitation of Decorated work. These insertions are in Bath stone which has weathered extremely badly. The buttresses on the exterior of the south aisle are flat Norman ones, and along this wall is a series of round-headed arches of stucco which may hide the springing of the vault of the destroyed cloister or arcading similar to that on the exterior of the north transept. The walls of the aisles are about 6 feet in thickness, and the width between the aisle walls is 59 feet.

Both transepts contain good examples of Norman work, but have been considerably altered in later times. Taking the north transept first, its west wall contains two Norman windows, one of which has since been blocked up, and on the interior is a piece of Norman arcading in its original state. The arcading on the exterior of the west and north walls of this transept has been considerably restored; the windows which light the crypt are inserted in this arcading. Perhaps the most interesting part of this transept is the round turret at the north-east angle. This is richly ornamented in several stories, the first being the arcade of intersecting arches which extends round the whole west and north walls of the transept; above this on the turret comes an arcade with coupled columns; above this comes some very curious reticulated work; and above this, again, comes an arcade with single shafts. The turret is roofed with a sloping roof of stone slates built against the transept wall. It is interesting to note how this square roof is placed over the circular turret. In this turret are the stairs leading from the transept to the crypt and upwards by means of a passage across the transept to the clerestory and also to the roof of the transept. At the north-west corner of the transept is a cluster of semicircular shafts rising to about the height of the aisle parapet; but whether these mark the height of the original Norman work, or whether the wall was higher and the upper part pulled down and rebuilt when the large Perpendicular window was inserted in the north wall, is not known. The original semicircular apse built at the east side of the transept was destroyed to make room for two Early English chapels towards the latter part of the thirteenth century.

The sacristan's house is said to have been placed against the west wall of this transept; but it has completely disappeared, though traces still exist on the nave aisle wall of a lean-to roof as well as of a doorway leading into the church. The south transept has also been con-



siderably altered, but the apse still remains on the east side, though the interior of it was restored in a most injudicious manner about 1860. This apse is divided externally into three bays by attached shafts, and is capped by a semi-conical roof with stone shingles. A table moulding with chevron decoration is under the eaves. The apse is two stories in height, the upper one lighted by two plain semicircular-headed windows and the lower one by an original Norman window and a three-light Early English window. Almost on the ground level is the window which admits light to the crypt beneath the transept. In the west wall is a fine Norman window, the sill of which has been lowered, and this transept was at one time vaulted

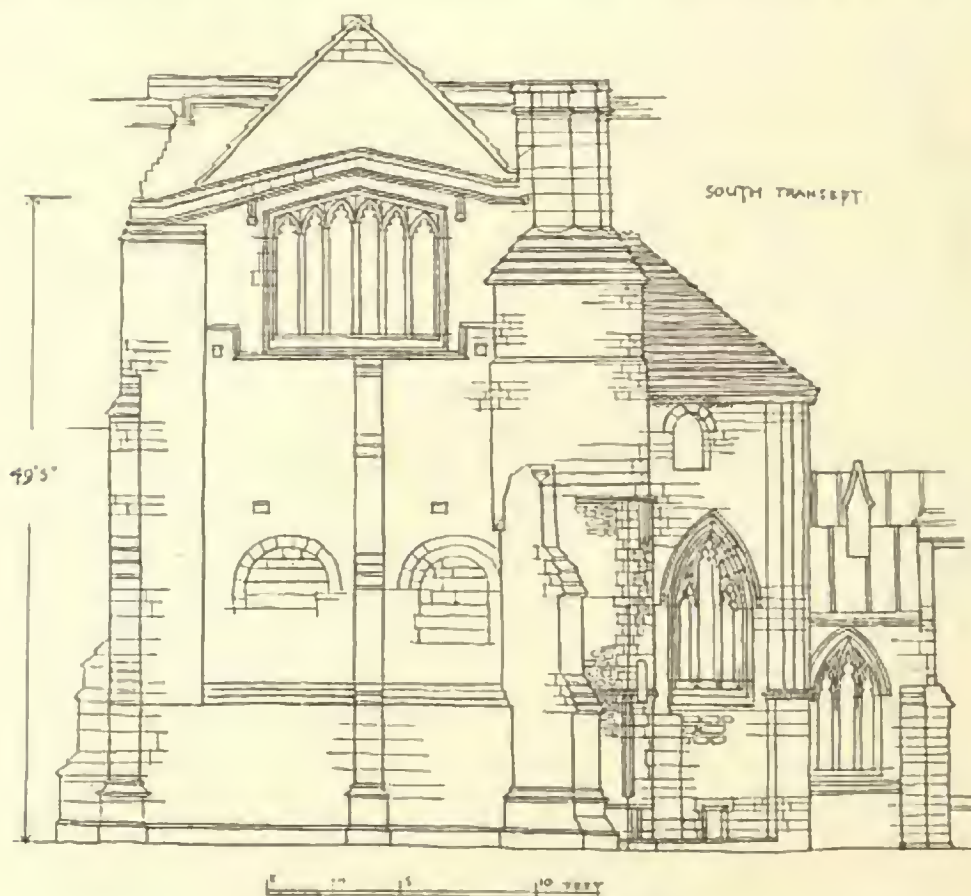


FIG. 9.—CHRISTCHURCH PRIORY: SOUTH TRANSEPT.

with stone vaulting of a late period; but this was removed about 1820, owing to doubts as to its stability. At the south-east corner of the transept is the turret containing the stairs leading to the crypt under the transept, and also by a passage across the transept to the south clerestory of the nave. This is very different from the staircase turret of the north transept, and has been altered in later times.

In the south wall is a doorway opening from the interior of the church into a wall passage originally connected with the monastery, but this is now blocked up. The exterior of the south wall and the upper part of the west wall of this transept were altered at a later date, and have subsequently been taken down and rebuilt.

Both transepts have modern galleries and pews in them which it would be as well to remove, as they are decided disfigurements. The organ, which up to about 1834 was placed on the rood screen between the nave and choir, is now in the gallery in the south transept.

#### EARLY ENGLISH.

In the Early English period a considerable amount of building was carried out, the work including the vaulting of the aisles, the addition of the nave clerestory, and the cloisters and chapter house. This chapter house is known to have been on the south side of the church, and remained as late as 1498. Cloisters would of course have become necessary as soon as the secular canons were replaced by regular canons in 1150, but these have completely disappeared. The clerestory windows are much earlier in type than those inserted in the north aisle wall, and this helps to prove that the clerestory is the earliest part remaining of the Early English work. It was carried out during the time of the third Prior, Peter, who was Prior from 1195 to 1225. Each window of the clerestory consists of two simple lancet lights, set in a plain recessed pointed arch without any hood moulding. The tympanum of each window is perfectly plain, not being pierced or decorated in any way. The bays are separated by very slightly projecting buttresses with gable heads, and the wall is capped by a simple parapet. In the thickness of the wall of the clerestory is a passage usually called the monks' walk; this probably was continued originally across the west end of the nave, but with the erection of the tower this way of communication between the two clerestories ceased to exist. The openings from this passage towards the nave are pointed arches, and just above them is the wall rib of the nave vaulting: this rib is of stone, as are also the first courses of the other ribs, though the rest of the vaulting is of stucco on a wooden framing. This makes it appear that a stone vault was contemplated at one time, though whether it was ever completed is a matter of doubt, as there is no documentary evidence to prove it, and little provision has been made to resist the thrust of a stone vault.

The Norman wall of the north aisle was refaced both inside and outside, and Early English windows inserted, towards the end of the thirteenth century. These windows are remarkably fine specimens of work of that period; all of them are similar in type, though those in the two western bays are rather different in detail. Each window consists of two lancet lights under an enclosing arch divided by a simple mullion, and the head of the window is filled with a circular cinquefoiled light. The cusps of this circular light are detached and let in, as was common in the Early English period. The glass is set near the outer side of the wall, and the windows are very deeply splayed internally. The soffit of the splay is vaulted with diagonal and wall ribs springing from small attached shafts in the window jamb; the inner arch of the window opening also springs from attached shafts, and serves as a rib to complete the vaulting. A rather curious feature about these vaulting ribs is that the backs of the ribs are much plainer than the fronts, which are visible from the aisle.

The vaulting of both aisles of the nave is very simple in character, the ribs simply having chamfered edges and no other mouldings. Each bay of vaulting consists of diagonal, transverse, and wall ribs, which spring from clustered attached shafts on the aisle wall, and from two semicircular shafts with a curious Early English corbel between them on each of the nave piers. The aisle-clustered shafts have fine moulded capitals, as have also the vaulting shafts in the window recesses. Stone benches are placed against the aisle walls, and form a base for the vaulting shafts. The buttresses placed against the north aisle wall to resist the thrust of the aisle vault are boldly projecting ones of Early English character, with gabled tops and strongly marked base mouldings, which are also continued along the wall between

the buttresses. These buttresses were built without proper foundations, just resting on the footings of the Norman wall, and have recently been underpinned.

Originally in the south aisle were two doors leading to the cloisters, one the prior's entrance and the other for the canons; but both these doors are now blocked up. The prior's doorway in the bay next the transept is semicircular headed and French in character, and is said to be the design or workmanship of a few French monks who at one time were inmates of the monastery, having been shipwrecked on the coast. An opening was cut through the wall in the west bay of this aisle in modern times, and this revealed a staircase in the wall which, without much doubt, once led to the dormitory of the monastery. As has been already stated, the buttresses to this aisle are flat Norman ones, strengthened later, after destruction of the cloisters, and none of the original Early English windows remain. The clerestory is of the same plain character on the south as on the north side.

The two Early English chapels which have replaced the Norman apse of the north transept are very interesting: they were built by the De Redvers, Earls of Devon, to whom the castle, which was close to the church, belonged, and are rather late examples of the Early English style. These chapels, which are together known as the Montacute Chantry, are separated from the transept by two stone piers. The windows in these chapels are good examples; the one most to the north is a three-light window with three foliated circles in the head, the other window is a two-light one with a single foliated circle in the head. The vaulting is irregular and interesting; in some cases the ribs are joggled in a curious way, and the junction marked by a head or a bunch of foliage.

The floor of these chapels is raised considerably above that of the choir aisle into which they open. There is a wooden staircase leading from this chantry to the gallery in the transept: the staircase is modern and spoils the appearance of this splendid piece of work: and as at the present time it is not of the slightest use, it is greatly to be hoped that before long the chantry will be cleared of the presence of this ugly piece of modern joinery. I understand from the Vicar that the staircase and gallery are to be removed as soon as the building is restored to a sound condition. Until then the restoration committee will not sanction any expense for interior alterations.

Opening out of the north wall of these chapels is the entrance to the spiral staircase leading to the crypt and upwards to the transept and clerestory. Above these chapels there is a room known variously as the tracing-room, and Oliver Cromwell's harness-room: but as the Protector never came to Christchurch the latter name is clearly an incorrect one. It was on one of the walls of this room that Mr. Ferrey found a pricked design for a window. This, it is said, he copied and afterwards used. The room is lighted by a two-light window in the eastern wall and by two small lancet windows in the northern: these windows are Early English in character, and the eastern one has a quatrefoil in the head under the enclosing arch.

In the north wall of the north transept is an Early English recess, originally used as a tomb. A chapel of this period, known as the revestry, is placed between the apse of the south transept and the south choir aisle wall; and, by reason of its position, it is very irregular in plan. On the south wall are triple sedilia, with Purbeck marble shafts and foliated arches under a gabled hood mould; and in the north wall, between the sacristy and south choir aisle, is a very small squint.

The revestry is lighted by two windows of Early English character, with attached shafts in the jambs carrying the internal arches. The east window is a two-light one, with the remains of the super altar and reredos below it, supported by corbel heads. The south window has three lights, the centre one being carried right up into the head of the window.

Both of these windows have been restored. The entrance to the revestry is in the south choir aisle, the doorway being of Perpendicular character, with depressed arch, under a square head.

The vaulting of this chapel indicates that originally it was larger than at present, it being reduced to its present size by the insertion of the wall separating it from the south choir aisle. A three-light Early English window has also been inserted in the apsidal chapel of the south transept: this is badly filled in to replace the old Norman window.

One of the finest pieces of Early English work in the church is the magnificent north porch, which dates from the end of the thirteenth century, and replaces the Norman porch. It forms the chief entrance into the church, and is remarkable for its great depth and height; its projection from the aisle wall is over forty feet, and, including the room which was added at a later period above the porch, it is over fifty feet in height, so that it rises almost to the level of the parapet of the clerestory.

There is a space between the clerestory wall and the south wall of the porch, as the porch is not continued back beyond the aisle wall. The entrance to the porch is through a fine, deeply recessed archway eleven feet clear in width, with Purbeck marble shafts in the angles of the recesses, moulded capitals to the shafts, and an elaborate arch mould above. The jambs of the inner doorway are also elaborate, there being clusters of Purbeck marble shafts on each side, from which spring a very fine arch mould. This arch mould, as well as that of the outer entrance, impinges on cylindrical cushions rising from each capital, and so all the mouldings are not continued down to the abacus level. This also happens to the mouldings of the inner arches of the window recesses to the north aisle of the nave, and to some of the vaulting ribs in the same aisle.

The doorway is divided by a slender pier, from which spring two cinquefoiled arches; and in the tympanum of the enclosing arch is a quatrefoil, the upper part of which projects to form a canopy with a gabled head. The side walls of the porch are divided into two compartments, each composed of two pointed arches under a larger one, with a cinquefoil in the head. On the inside of the west wall of the porch is a recess, with shafts and foliated

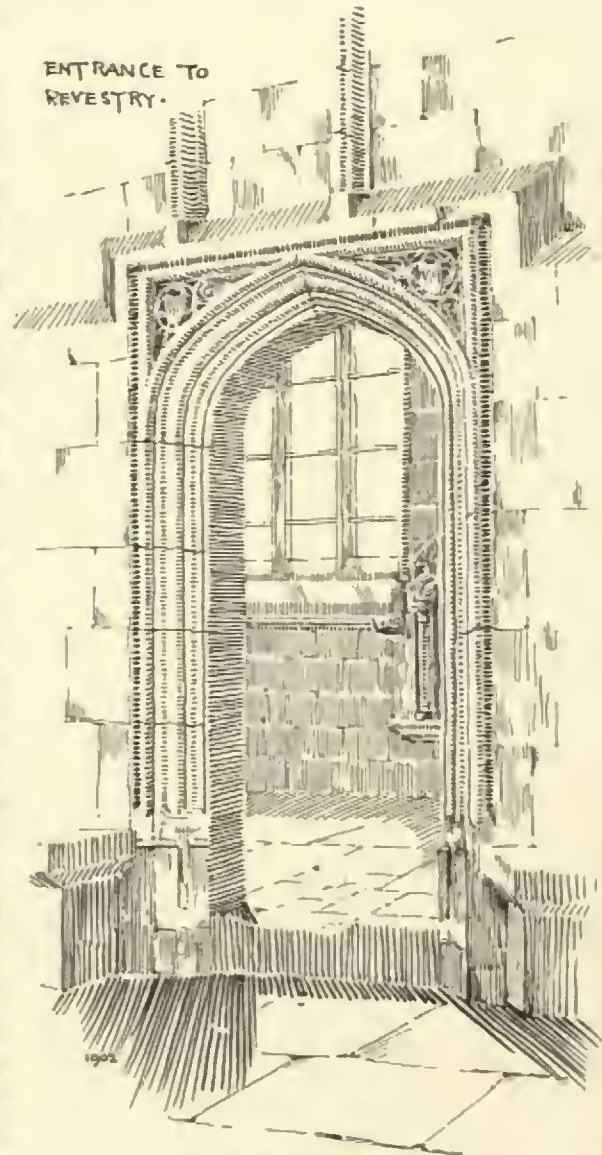


FIG. 12.—CHRISTCHURCH PRIORY.

cusps, which is said to have originally contained a desk and to be the place where the Prior met the parishioners and signed deeds. The buttresses are boldly projecting, and are placed on each side of the entrance, and two on each side of the porch: they are in three stages, and finish under the parapet. The porch is elaborately vaulted, but this is not the original work, as it was entirely renewed about 1860. The room above the porch proper was probably added in the fifteenth century, and is finished with a very flat gable, at the apex of which is a fine cross. This room is lighted by two pairs of narrow single-light windows on each side, and another pair on the north face, and was used as a bellry before the present tower was built, traces being found of holes in the walls for beams supporting the bells, as well as traces of louvres in the window openings. At present it is used as a choir-room.

#### DECORATED.

A good deal of the Early English work is very late in the period, approaching the transition to the Decorated period; but the work which can really be classed as Decorated Gothic is confined to the magnificent reredos and rood screen. These two features, however, form splendid examples of Decorated treatment, and must be seen and studied to be properly appreciated.

The rood screen dates from late in the fourteenth century, and forms a very substantial division between the nave and the choir. The west face of this screen projects considerably westward of the east walls of the transepts, and the east face rests against the two eastern piers of the crossing. The screen is about 34 feet wide, so that it is wider than the nave, nearly 17 feet high and over 7 feet in thickness. There is a narrow opening in the centre, giving access from the nave to the choir; and the roof of this passage is covered with a small though elaborately decorated vault springing from corbels. From the north side of this passage a staircase leads to the top of the screen. The decorative scheme of the screen is an elaborate one; the base is plain, then comes a row of quatrefoil panels, each with a plain shield in the centre; above come two tiers of canopied niches, the upper tier containing twelve niches in the width of the screen, the lower only ten, owing to the doorway in the centre. The returned ends of the screen are decorated with similar niches. The lower niches have pedestals of rather an elaborate type, each pedestal consisting of four short shafts with detached bases, but with capitals which intersect and are covered by a single abacus. These capitals are ornamented with various kinds of foliage, and in all probability figures were placed on these pedestals at one time. The rood is said to have been taken from the screen about 1540. In 1788 the organ was placed on the screen, and this caused the destruction of the upper part of the screen, but after the organ was removed the screen was extensively restored by Mr. Ferrey about 1848.

The magnificent stone reredos, which is probably unsurpassed by any in England, occupies the whole width of the east wall of the presbytery, which divides the choir from the Lady Chapel. The date of this reredos is late fourteenth century, and so is earlier than the choir, which is of fifteenth-century date; it possibly may have been an addition to the Norman choir before that was destroyed to make room for the existing choir. In Mr. Ferrey's opinion the screen may once have stood across the nave between the second piers from the crossing, forming a reredos for the western part of the nave, which was used as the parish church. These two nave piers are without the attached vaulting shafts of the other nave piers, and so it seems probable that the division at this point between the church of the canons and the church of the laity was marked by a screen, even if the existing reredos never stood there.

The reredos is about thirty-four feet in height and eighteen feet in width, so that it is of considerable size: it is divided into three tiers, with five compartments in each tier, the central one being wider than the two on either side. In the wall above the reredos is a small



PL. 11.—CHRISTCHURCH PRIORY: THE CHOIR.

[Photo. A. Mallet, Christchurch.]

door which communicates with the room over the Lady Chapel, and above this are two holes in which a crucifix is said to have been fixed at one time.

The subject of the sculpture of the reredos is the tree of Jesse. In the central compartment above the altar Jesse lies sleeping; on the left hand is David playing the harp; and on the right is Solomon. Above Jesse, in the centre of the reredos, is seen a combined representation of the birth of Christ, the visit of the Magi, and the appearing of the angels to the shepherds; while throughout the screen are thirty-two smaller figures in niches representing other of Jesse's descendants.

The canopied niches on either side of the central group, as well as those in the upper division of the reredos, are empty, though at one time these contained figures, for the Commissioners of Henry VIII. mention having seized eight wooden figures covered with silver, which probably occupied the empty niches. The reredos is finished with a cornice and cresting, the centre part being occupied by a small panel bearing the monogram I.H.S. The canopies to the niches are highly decorated with crockets and finials, the under part of the canopies being vaulted. The whole screen is in a wonderful state of preservation, and has hardly been touched by the restorer. There is a door in each of the two side compartments of the lowest tier, which leads to a platform at the back of the altar to enable the priest to make the complete circuit of the altar while censing at High Mass, and steps may have led from this platform to the ambulatory.

Seen in all the splendour of its original colouring, and with the present empty niches filled with figures, this reredos must indeed have been a magnificent sight; but even now, stripped of some of its magnificence, it remains a worthy object of admiration to all interested in mediæval architecture.

#### PERPENDICULAR.

The fifteenth century was productive of great additions to the church, the Lady Chapel, western tower, and choir all being of that period; so that besides the tower practically all the church east of the crossing is Perpendicular in character. The Lady Chapel is the earliest part built in this period, being finished by the commencement of the fifteenth century. The date can be fairly definitely decided by the date of the two tombs in the chapel, which are placed one on each side of the stone altar. These tombs are those of Sir Thomas West, who died in 1406, and his mother, who died in 1395.

Sir Thomas left directions that he was to be buried in the new Lady Chapel, and as the original arcading has been cut away to make room for his tomb, it is fairly evident the chapel must have been completed before his death. The chapel is situated at the east end of the choir, separated by the ambulatory from the platform at the back of the reredos. It is over fifty-eight feet in length to the back of the reredos, twenty-four feet in width between backs of wall paneling, and about forty feet in height to top of vaulting. The side walls of the chapel, including the width of the ambulatory, are divided into three bays, the easternmost of which on each side are filled with large four-light windows, which, with the large five-light east window, light the chapel extremely well. The window tracery is repeated as panelling in the other two bays; but without any doubt half the bay next the window on each side has also been window space at one time, for the panels are filled up with brick, and the iron stanchions of the windows still remain. The wall of the chapel below the window level is filled with ogee-headed arcading, which is still in a good state of preservation. The ambulatory opens into the choir aisles, with depressed four-centred arches about eighteen feet nine inches in height. The vault is an extremely fine example of Early Perpendicular vaulting; the ribs do not spring directly from the vaulting shafts, but from pendants, octagonal in plan, placed some distance from the side walls and supported by arches across the chapel. Above each pendant is a sort of sheath, about two feet

high, which encloses the ends of the vaulting ribs, and the undersides of the pendants are ornamented with carved figures of angels. The vault is an example of "stellar" vaulting and is composed of diagonal, transverse, wall, ridge, and lierne ribs; the soffit of the space between the ribs and wall caused by the pendants being placed away from the wall is decorated with foiled panels. The chapel still retains its stone altar, in this case composed of a slab of Purbeck marble 11 feet by 3 feet 10 inches. This altar has two sets of dedication crosses, having been rededicated probably after the mutilation of the reredos. The east wall underneath the window is decorated by a much-mutilated stone reredos, which in its original state must have been a very rich example. Two doorways are cut in bays of the arcading, one on either side of the chapel; the one on the south side opens into what used to be the canons' burying ground, and the other into the churchyard on the north side of the church, though originally it opened into a chapel which has since been destroyed.

The two tombs mentioned above are placed on the north and south sides of the altar. These are both of Purbeck marble, and are built into the wall; the designs of both tombs are interesting, the one on the north still retains the shafts supporting the canopy, but if the other one had shafts for a similar purpose they have disappeared.

These tombs are elaborately decorated with traceried panels, and each is covered with a flat vault. The eastern ends of the choir aisles are continued for some distance along the Lady Chapel walls east of the ambulatory, thus forming recesses, the south of which has a stone screen across in line with the end of the Lady Chapel, and forms the Draper Chantry. In the north recess, which at one time was used as a chantry, is a tomb with effigies of Sir John and Lady Chidioke, which was removed from the north transept to its present position in 1791.

The room over the Lady Chapel, known as St. Michael's Loft, is of about the same period as the Lady Chapel, as are also the eastern ends of the choir aisles. It is reached by stairs in turrets at the ends of the choir aisle walls. These stairs are carried up in the turrets in the aisle walls to the level of the aisle roof, then by passages across the aisles to turrets built against the Lady Chapel walls, and so up to St. Michael's Loft; the staircase on the north side is continued up to the level of the roof. The room is a plain, low room, about fifty-eight feet by twenty-three feet, extending over the whole of the Lady Chapel and ambulatory. It is lighted by five two-light transomed windows on either side and a three-light window in the east end. The side walls are about twelve feet to the wall plate, and the room is covered by a low-pitched tie-beam roof of oak. There is a piscina at the east end, which clearly shows that the room was once used as a chapel: this was dedicated to St. Michael, and report says that it was used as a chapter-house for some time. A dilapidated schoolmaster's desk occupies the site of the altar, for this room was used as a public grammar school for nearly two hundred years, from 1662 to 1828, and from the latter date to 1869 as a private school. In England the existence of an upper chapel is an uncommon occurrence, and probably the perfection of this one at Christchurch renders it unique.

The exterior of the eastern end of the church is very interesting, the height of the Lady Chapel and the largeness of its windows contrasting with the domestic character of the windows of St. Michael's Loft; the great projection of the buttresses, the octagonal staircase turrets rising above the roof, all combine to make it an effective piece of architectural arrangement. The pierced parapet of the Lady Chapel was, without any doubt, intended to be carried the whole length of the choir, but has been carried only to the end of the Lady Chapel.\* The great diagonal buttresses of the Lady Chapel are in four stages and finished with

\* Some of the stones for this parapet were left partially worked after the dissolution of the monastery, and these, after an interval of over three hundred years, were finished

and used when the parapet was extended to its present length in recent years.

square turrets, panelled and battlemented; the other buttresses have gabled heads; they are in five stages, with well-marked set-offs and with a strongly marked base mould, which is continued all round the Lady Chapel. The passages connecting the staircase turrets on either side of the church are carried considerably above the aisle roofs, and are lighted by means of narrow unglazed openings. It is interesting to note how each octagonal turret against the Lady Chapel wall is carried by means of a squinch arch over the aisle roof on to the end wall of the aisle. The entrance to the north staircase leading to St. Michael's Loft is by a passage cut through the buttress to the west of the turret; if there was ever a corresponding entrance from the outside of the south side of the building it has since been blocked up, and the only

entrance from the ground level on this side is by a doorway in the interior of the church.

The western tower is of fifteenth-century date (*circa* 1470), and is 116 feet in height to the top of the parapet; the interior plan is over 22 feet by 21 feet to the west of the arch dividing the tower from the nave; the walls of the tower at base are from 7 to 8 feet in thickness. It was not added to the outside of the old west front, but that was pulled down and the tower set partially within the church, taking up the space of the two western bays. By this arrangement two recesses were formed at the western ends of the aisles: the one on the south now being used as the clergy vestry, and the other, which contains the entrance to the

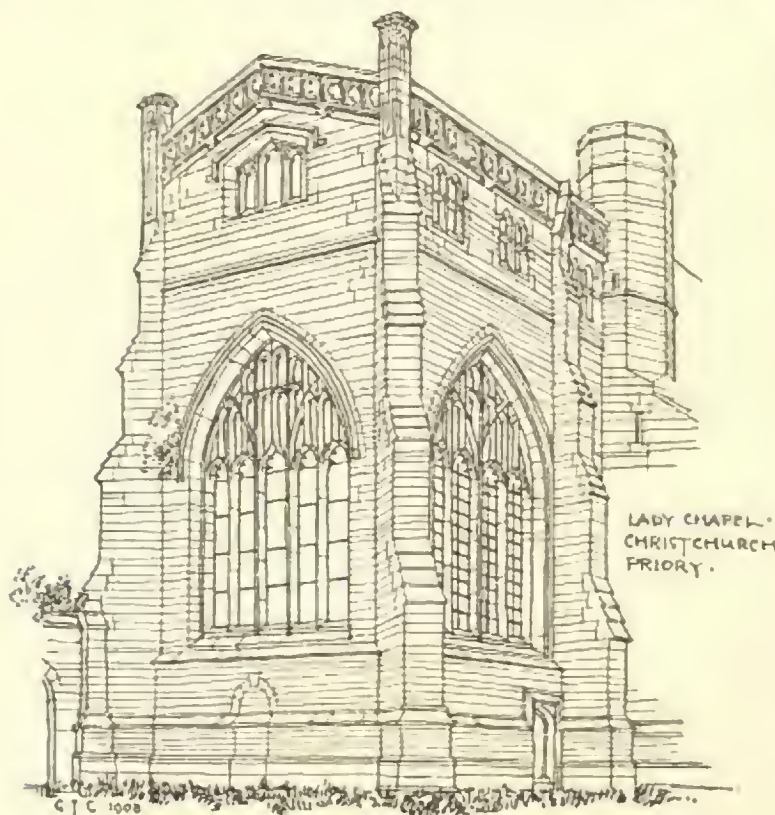


FIG. 15.

staircase leading to the north triforium, &c., was until recently used as a lumber room and coal cellar, but is now cleared out.

The tower is divided into three stages: the lowest stage is lighted by the west window and vaulted with a stucco vault similar to that in the nave; the next stage is the ringers' chamber, lit by small windows on the north and south sides; while above that is the belfry, which contains ten bells. Eight of these are old, several dating from the fourteenth and fifteenth centuries and bearing inscriptions; the other two were added quite recently, being dedicated in 1904.

The west entrance to the church is in the tower; on the exterior this doorway has a square label over the arch, the spandrels being filled with tracery and the arms of the church and the Earls of Salisbury. Above this doorway is the large west window of six lights,

divided into three stories by transoms, the head of the window being filled with tracery of Perpendicular character. The window was restored in 1828. Immediately above it is a canopied niche containing a figure of Christ. Above this comes the belfry stage, which contains two two-light louvred windows on each face of the tower, each window being divided by a transom.

The battlemented parapet which crowns the tower has pinnacles at each corner and in the middle of each face, and is decorated by a row of sunk quatrefoil panels. The roof is a low pyramidal one placed diagonally, and was covered with stone shingles until last year, when the shingles were replaced by lead.

The staircase turret is at the north-east corner of the tower: it is octagonal in plan, and continued up above the main parapet of the tower, and finished with a parapet and pinnacles. The upper part of this turret and the pinnacles on the parapet were renewed about 1871. The tower is strengthened by pairs of buttresses at each angle, except the angle occupied by the staircase turret. The ends of the naves come against the north and south sides of the tower, and have windows of Perpendicular character. In the north wall of the north aisle a semicircular headed doorway has been cut in modern times. The windows which light the ringers' chamber are small trefoil-headed windows with square label over, and come immediately under the clock face on the north and south sides of the tower. An interesting series of masons' marks can be traced on the stones of the tower, some of which also appear at Wrexham.

The present nave roof is fifteenth-century work, and was evidently erected after the tower, for on the east wall can be seen the marks of a steeper pitched roof, and the gable at the east end of the roof is also much steeper in pitch. When the roof was lowered the same timbers were used: these were shortened, and so brought about the lowering of the pitch of the roof. The roof consists of oak principals spaced about 10' 9" centres with tie-beams and collar beams, and curved braces moulded on edge extend from tie-beam to collar beam; above this comes a second collar supported with struts resting on the main collar beam. These struts also carry a longitudinal beam which supports a collar between every pair of rafters. There are three purlins, and between the principals and purlins are arched wind braces decorated with cusping, and on some of these braces are traces of painted decoration. As a matter of fact, this roof was open to the framing until the present stucco and timber vault was erected in 1819. The roof is covered with stone shingles; and as this forms a very heavy roof covering, the roof has been strengthened in later times by the insertion of an extra truss in each bay.

The choir is the latest part of the fabric, not being finished until the beginning of the sixteenth century. The earlier choir was destroyed, and the present one was fitted in between the Lady Chapel and the early work of the nave and transepts. The junction between the early and later work can be distinctly traced on the exterior, the surfaces of the wall at the junction not being exactly in the same plane. This fitting together has led to rather irregular planning of the vaulting bays of the north choir aisle, although the choir itself is planned regularly. The floor of the east end of the choir is raised considerably above

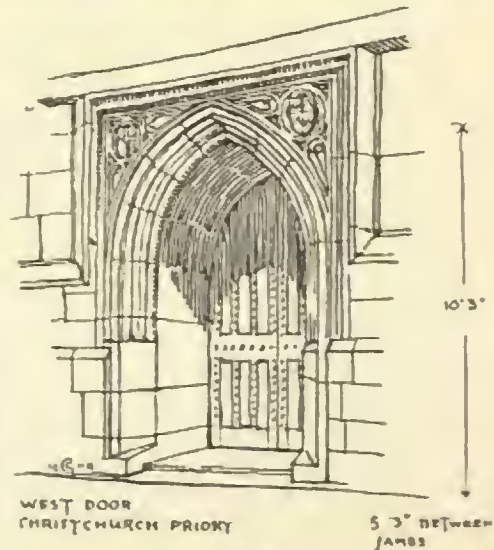


FIG. 16.



of the vaulting bosses, still retain their original colouring. The vault is very similar in character to the vault of the Lady Chapel, springing from pendants in the same manner, but has bosses at the intersection of its main ribs, whereas the only bosses in the Lady Chapel vault are over the windows at the junction of the wall ribs. The choir vault was not completed until after 1500.

Almost the only fragments of the mediæval stained glass remaining in the church are placed in the upper parts of the choir windows; other fragments are buried under the floor of the Lady Chapel, but these are too small for it to be of any practical use trying to fit them together.

Altogether, the choir is an extremely interesting part of the building, not only as part of the main structure, but on account of what it contains; for besides the splendid reredos already mentioned, it contains the fine chantry known as the Salisbury Chantry, and also the original choir stalls of the fifteenth and sixteenth centuries with some misereres of earlier date.

The choir aisles may be entered from the nave as well as by the steps leading from the choir. Both aisles are wider at the east end than at the junction with the transepts. They are each lighted by four windows at the side and a window at the east end, but the window on the south side next the revestry is only half the width of the others owing to the junction at that point between the east wall of the revestry and the aisle wall. The side windows are all similar in type with depressed arches of so slight a curve that each side of the arch appears almost a straight line. The reason of this is that each bay of the interior wall is panelled with depressed four-centred arches spanning the space between the vaulting shafts, the windows being the four centre panels pierced and decorated with tracery. The four-light window in the east end of each choir aisle is different in type from the side windows, being enclosed in a much more pointed arch. In the same bay as the steps on the south side is the entrance to the Malmesbury Crypt.

This completes the development of the main structure of the building, but the church contains some fine chantries, as well as choir stalls, and these are well worth describing.

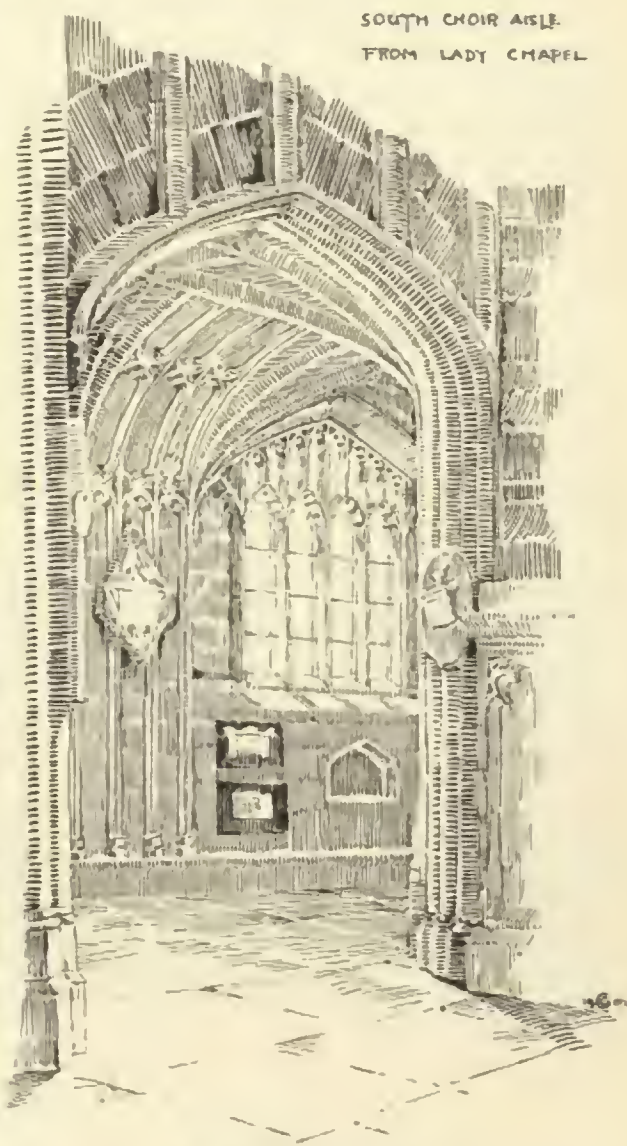


FIG. 12.—CHRISTCHURCH PRIORY.

## CHANTRIES.

The chantries are four in number, two being on the south, and two on the north side of the choir. The earliest in date is the Berkeley Chantry, in the second bay of the north choir aisle. This has a stone screen front, much restored by wooden mullions, and divided by the doorway; the ceiling is a flat wooden one, with painted decoration. The origin of this chantry was not known until recently, but a short time ago documents were discovered proving it to have been built by order of Sir William and Lady Margaret Berkeley, 1475-86.

The next in date is probably the well-known Salisbury Chantry, the design of which is attributed to the Florentine sculptor Pietro Torregiano. If it be his design the date must be between 1509-17, as this was the period he was in England. The chantry is in the eastern bay of the choir, on the north side, and can be entered either by a doorway inside the altar rails or by steps leading from the choir aisle. It is rectangular in plan, and the floor level is raised considerably above the level of the aisle. There are two bays of open tracery on either side, with battlemented transoms, and the two doorways are to the west of these bays. The east wall of the chantry is occupied by three canopied niches, and the ceiling is covered by a very elaborate fan vault, with sculptured bosses; but these bosses have been much mutilated, the armorial bearings being deleted by order of Henry VIII., the Countess of Salisbury, for whom the chantry was erected, having been executed as a traitor. The side facing the choir is carried up nearly to the level of the sills of the clerestory windows, and is decorated with canopied niches, and the side towards the north choir aisle reaches from the floor to the vault. This side rests on an elaborately decorated basement, above which is a row of canopied niches: then come the bays of open tracery, above which the screen finishes against the vault. At each corner, and dividing each of the two sides, are attached octagonal shafts, elaborately panelled and decorated; the shafts are carried above the screen on the south side, and between them are elaborate finials. The whole chantry is covered with niches and rich carved decoration which shows strong Italian influence and gives a decided Renaissance character to this splendid chantry, even though the general lines of the design are Gothic. The whole of the carving on this chantry, though about four hundred years old, is in an excellent state of preservation, and is as sharp and clearly cut as though only executed a few years ago.

The Harys Chantry, in the south choir aisle, nearly opposite the entrance to the revestry, dates from about 1525, that being the date when Robert Harys, the thirteenth vicar, died. This chantry has a doorway in the centre and open tracery panels above a panelled base on either side.

The Draper Chantry, which is the latest in date, is formed by a screen placed across the recess at the east end of the south choir aisle, and bears the date 1529, although John Draper, who was the last of the priors, did not die until 1552, thus enjoying for about twelve years the generous pension granted him by Henry VIII. on his surrender of the monastery to the King's Commissioners. This screen has a central doorway with depressed arch, with elaborate canopied niches over; on either side are transomed open tracery panels, and at either end are canopied niches. Above these panels is a band of lettering, and above that a sculptured band of decoration, Renaissance in character. The screen is surmounted by a battlemented parapet, while over the centre and end niches are crocketed finials.

## CHOIR STALLS.

The upper series of oak choir stalls number thirty-six, fifteen on either side and six against the back of the rood screen. On both sides of the choir is another lower series of

stalls, numbering eleven on either side. The seats of the prior and sub-prior on either side of the entrance to the rood screen are canopied, the only other canopied stall being that of the precentor, at the east end on the south side.

The arms of the stalls have quaintly carved figures, and so have a good number of the misereres. In the upper part of the panels, at the back of the upper row of stalls, are carvings in low relief; and above these panels is a boldly projecting coved cornice, with pierced parapet ornamented with pinnacles. The style of the stalls is Late Perpendicular, and, judging from



[Photo. Gen. Mass, Christchurch]

FIG. 12.—CHRISTCHURCH PRIORY.

the subjects of some of the carvings, the panelling at the back of the stalls is later still. The misereres generally date from the same period as the stalls; but some are much earlier in date, and probably belonged to the stalls of the original choir, the earliest probably dating from about 1200. These old misereres were found amongst lumber, and now replace some of the later ones which have been lost or stolen. The subjects of the carvings on the stalls are not by any means all sacred ones; satire and caricature are frequently seen, while political subjects are also made use of. Probably the finest of the misereres is one dating from about 1800; it is much undercut, and is an excellent piece of craftsmanship.

## LATER WORK AND RESTORATIONS.

After the completion of the choir, 1502-20, no structural work was undertaken, and nothing seems to have been done in the building until the early part of the nineteenth century, when about 1819 Garbett inserted the stucco and wooden vault of the nave. This, however much one may dislike it as a sham, undoubtedly improves the proportion of the nave, and certainly has some justification; for a vault was originally intended to cover the space, though

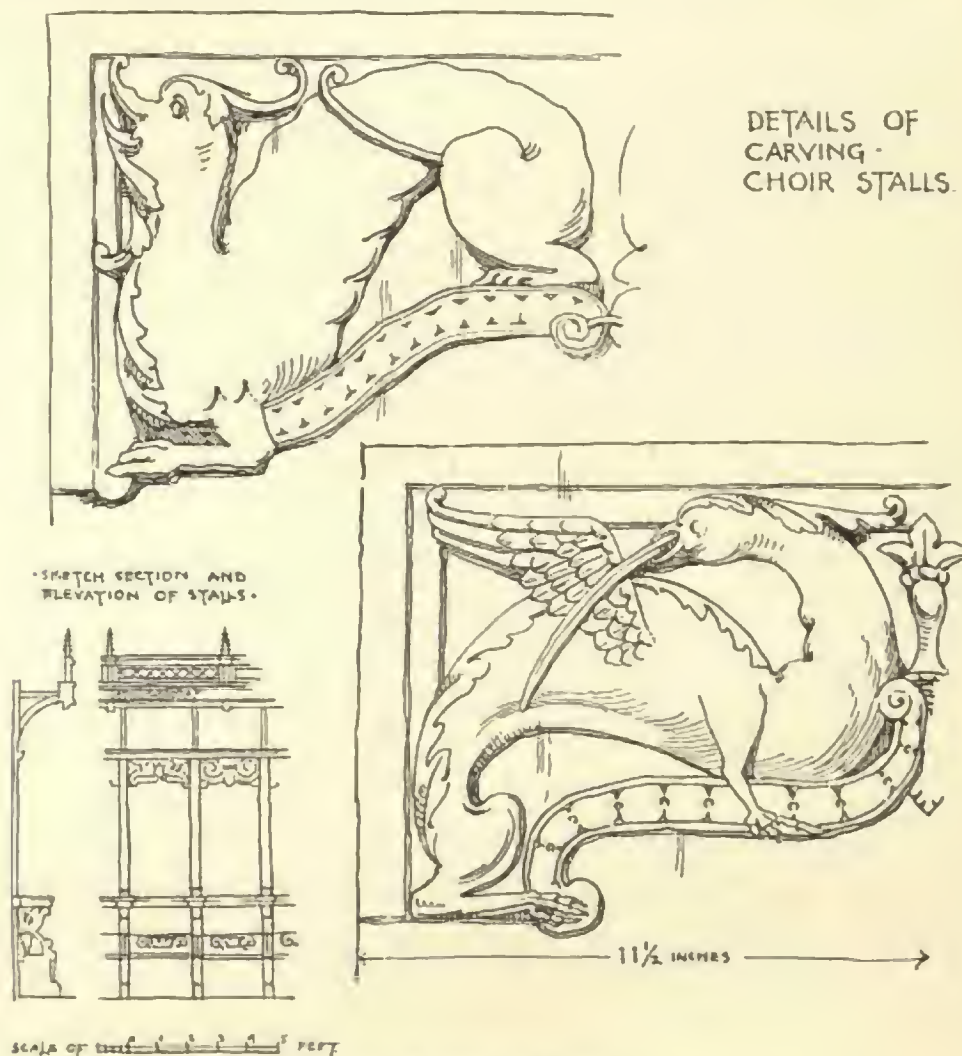


FIG. 20.—CHRISTCHURCH PRIORY.

there are no flying buttresses, and the walls have scarcely sufficient strength in themselves to resist the thrust of a stone vault, even if there had been sufficient means available to erect one. The west window, as previously stated, was restored about 1829.

Mr. Benjamin Ferrey did a good deal of restoration in the south nave aisle, and restored the upper portion of the rood screen in 1848. Most of the windows of the south aisle of the nave were inserted in Mr. Ferrey's time and are all of Decorated type.

One of the worst effects of modern restoration is seen in the apsidal chapel of the south transept, for here, although some of the original work is preserved, the effect given is that of a modern copy of a Norman chapel, and the charm of the original work is lost. This work was carried out about 1860 under the Hon. C. Harris, Bishop of Gibraltar. The Norman arcading on the wall of the south aisle of the nave has undergone much restoration, some of the bays being entirely modern work.

The exterior of the north transept has also been extensively restored, as may be seen by comparing the illustration of it in Britton's *Architectural Antiquities* with its present state. In 1871 the upper part of the stair turret of the tower and the pinnacles on the parapet were renewed, and since then various repairs have been executed, including seven entirely new roofs and the underpinning of the north side of the nave. At the present time restoration is proceeding under the direction of Mr. T. G. Jackson, R.A.

#### MATERIALS.

In conclusion, it will be of interest to mention the materials used in the building, as given by Ferrey. The Norman round tower is of limestone from Hendon Hill, in the Isle of Wight, and probably the piers of the nave are of the same material; the north side of the nave and the north porch are of Binstead stone, also from the Isle of Wight (these quarries are now worked out); and the part of the church east of the transepts is principally of Purbeck stone. Purbeck marble is used for the shafts in the door jambs of the north porch, while the Draper and Salisbury Chuntries are of Caen stone. Whether it is owing to these stones being of good quality, or whether the purity of the atmosphere is the principal cause, it is remarkable what a wonderful state of preservation the building as a whole is in. A contributory cause to the preservation of some parts of the building, notably the robedos, has been without much doubt the way in which they were covered with whitewash at one time, and a debt of gratitude is due to those who, even without intending it, helped in this preservation. This coating of whitewash was removed about 1810. The fine detail of the chantries and the sharpness of the mouldings generally are as clear now as if they had only been executed within the last few years.

Most of the oak roofs are covered with lead, but the roofs of the nave, the Norman tower, the Early English chapels on the north transept, and the south transept and apse are covered with stone shingles.





9 CONDUIT STREET, LONDON, W., 29th August 1908

## CHRONICLE.

### Royal Commission for the Preservation of Ancient Monuments in England.

A communication from Downing Street addressed to the President states that the Government have decided to appoint a Royal Commission to Report on the Preservation of Ancient Monuments in England, that it is considered desirable that a representative of the Institute should be a member of the Commission, and that the President is invited to nominate some one acquainted with early and mediæval architecture who would be prepared to serve on the Commission. The President has nominated Mr. Leonard Stokes, who has accepted the nomination. Lord Burghclere is to be the Chairman of the Commission, and sittings are expected to begin in October.

### International Competitions.

In accordance with the Resolutions and Recommendation of the VIIth International Congress (London 1906)\* a Special Commission of seven members—consisting of MM. A. Weber (Austria), L. Bonnier (France), L. Neher (Germany), John W. Simpson (Great Britain), M. E. Cannizzaro (Italy), Repulles y Vargas (Spain), and G. O. Totten (United States)—was appointed by the Permanent Committee of these Congresses to consider the various reports and communications† received from MM. Guadet and Trélat, the Committee of the Society "Architectura et Amicitia" (Amsterdam) and "Bouwkunst en Vriendschap" (Rotterdam), MM. Cannizzaro, Harmand, Totton, Rey and others, and to report thereon to the next Congress (Vienna 1908). After repeated meetings and discussions, the Special Commission condensed the matter put before them in the form of twelve Resolutions, which, as translated by Mr. John W. Simpson [F.], Acting Secretary of the British Section, are as follows:—

1. International Competitions should be reserved for exceptional occasions of a really international character.

2. International Competitions may be either open to all architects without invitation or limited and by invitation.

Limited and invited competitions may consist of a single stage.

Competitions open to all should be held preferably in two stages.

3. The "conditions" of International Competitions are to be identical for all competitors.

No drawing or document submitted should be taken into consideration except those specified in the conditions.

4. The instructions to competitors should state definitely the conditions of the competition, and matters considered desirable should not be left to the option of competitors.

5. In limited and invited competitions the conditions should be fully detailed and should require the scheme to be fully developed.

In competitions open to all, the conditions should express the technical requirements in general terms and limit the number and scale of the drawings to the minimum necessary for the jury to understand the design.

The conditions should require designs to be submitted anonymously under motto in the first stage, and to be signed by the author in the second stage.

6. In double competitions the conditions in the first stage should be as those for competitions open to all, and in the second stage as those for limited and invited competitions.

Designs selected in the first stage only can be admitted to the second stage.

7. The conditions of a competition should be published and placed at the disposal of competitors on the same date in all countries.

The date of despatch (evidenced by the carrier's receipt, which must be sent on to the jury) is to be the date of closing the competition.

8. The conditions must be drawn up in one only of the four languages officially admitted at the International Congresses of Architects of 1906 (London) and 1908 (Vienna): English, French, German, or Italian.

The conditions should be prepared in consultation with experienced architects.

9. The jury of an International Competition shall consist of seven architects, all of different nationality, one of whom shall belong to the country which institutes the competition. A legal authority, nominated by the administration promoting the competition, shall preside in order to insure regular procedure, but shall have no vote.

The members of the jury by accepting nomination shall be held to have declared themselves to have no material interest, either directly or indirectly, in the execution of the work the subject of the competition.

10. It is desirable in International Competitions, and especially in the preliminary stages, that the exact limit of cost shall not be fixed, in order to leave full liberty to the artistic conception of competitors.

11. The total value of the premiums to be awarded shall be at least double that of the fees payable upon the execution of the work if it had been entrusted to an architect without competition.

The principle must be enforced that the carrying out of the work be entrusted to the architect placed first, subject to the conditions in force in the country promoting the competition.

\* Vide *Transactions of the Congress*, p. 517.

† *Ibid.* pp. 495 to 517.

The amount of the prize shall not be deducted from the amount of the fees payable.

In the event of the person or corporation promoting the competition wishing to reserve the right to pass over the architect placed first, the conditions of competition must state the terms of compensation.

Should the work not be executed, the same compensation shall be due.

In all cases the authors of designs submitted retain all artistic right in their design and in the building erected from it.

12. In single-stage competitions all the designs shall be exhibited in a suitable place and for a sufficient time to enable all competitors to visit the exhibition, which should be advertised beforehand in the professional papers.

In double competitions there shall be no exhibition after the first award. All the drawings shall be placed under seal and exhibited subsequently together with the designs in the final competition.

The full report of the jury giving their reasons for the award shall be published before the opening of the exhibition for the information of all parties interested.

The above Resolutions were read at the closing meeting of the Vienna Congress and approved of generally; but at the subsequent final meeting of the Permanent Committee Mr. John W. Simpson (Great Britain) pointed out that in order to render them really effective the various nations adherent to the Permanent Committee should be given an opportunity of considering and confirming them. To this end he moved that a copy of the Resolutions be sent to each section of the Permanent Committee with a request:—

1. To consider them in detail, and return them to the Secretary-General (Monsieur J. M. Poupinel, of Paris) with their observations thereon.

2. To appoint one member of their section to meet the other delegates at Paris with full powers to discuss the said Resolutions and settle a final and definite Report, which shall be held to express the views of every nation represented on the Permanent Committee.

The resolution was carried unanimously, and it was finally agreed that the meeting of the delegates should take place during the second week of November next. The observations of the sections have to reach the Secretary-General at least three weeks before that date, to enable him to prepare the necessary classification and comparative report.

As it is particularly important that the delegate appointed to attend the meeting at Paris should be fully informed as to the views of British architects on the subject, copies of the above Report and Resolutions have been addressed to the Competitions Committee and to the various Allied Societies of the Institute, with a circular letter inviting suggestions and observations on the Resolutions. Architects in the home district desiring to offer suggestions are requested to communicate them to the Competitions Committee of the Institute, and members of the Allied Societies to their own councils. Such communications must be made

early in the month of September, as the reports from the Allied Societies and Competitions Committee have to be in the hands of the Secretary of the Institute by the 30th. Clear indication should be given as to the Resolutions to which suggestions relate.

#### London Building Acts: Proposed Amendments re Thickness of Walls.

At the last meeting of the London County Council before the recess the Building Act Committee brought up the following report:—

In accordance with the undertaking given in the Council by our Chairman, we have carefully considered the question of the amendment and consolidation of the London Building Acts.

We are of opinion that the existing building laws of London require amendment in several directions, and that there is a pressing need for their consolidation, but we do not see our way to recommending the Council to deal with the important questions involved until some definite decision is come to with regard to the Housing and Town Planning Bill now before Parliament, and, if the Bill become law, until the Council has had an opportunity of considering the effect of its provisions. The Bill as it stands not only affects Part II. of the London Building Act 1894, which regulates the formation and widening of streets and the erection of buildings abutting upon streets, but possibly other parts of that Act. In the circumstances we think that it would be useless to attempt to promote legislation in the next Session of Parliament for the general amendment of the Building Acts, though we propose proceeding with the consideration of the general question at the earliest possible moment.

There is, however, one important matter which should be dealt with in the Session of Parliament of 1909, viz., the use of steel construction and reinforced concrete in buildings. This method of construction was not contemplated in the Act of 1894, and there is no doubt that a change of the law in this direction is necessary in order to meet modern building requirements, and we have been strongly urged by the Royal Institute of British Architects, the Institution of Civil Engineers, and the Surveyors' Institution to promote legislation with that object. Under the London Building Act 1894 the walls of all buildings must be of the thickness prescribed by the first schedule of the Act, with the effect that the walls of buildings mainly constructed of steel or reinforced concrete have to be of a greater thickness than is necessary for stability, thus unnecessarily diminishing the floor space of the buildings.

The Report concludes with the following recommendation:—

That application be made to Parliament in the Session of 1909 with a view to the amendment of the London Building Act, 1894, so as to facilitate the use of steel or reinforced concrete in the construction of buildings, and to make any necessary provision with regard thereto.

#### The Institute Contract Form.

One of the subjects discussed at the half-yearly meeting of the National Federation of Building Trades' Employers of Great Britain and Ireland,

held at Birmingham recently, was as to ways and means of making more universal the adoption of the R.I.B.A. Form of Conditions of Contract. The following motion was brought forward:—"The Conditions of Contract issued by the R.I.B.A., and approved of by this Federation, having now been in continuous use since July 1903, during which time they have been found to give general satisfaction, the Council be, and are, hereby instructed to approach the R.I.B.A. with the object of obtaining their support in a united effort to extend the use of these Conditions to districts that have not already adopted them." On the suggestion of the President, Mr. C. H. Barnsley, of Birmingham, the words "with the co-operation of the Institute of Builders, should they think it desirable," were inserted after "R.I.B.A.," and the motion was carried. The following supplementary resolution was also carried:—"That the administrative committee approach the Government Departments and the various associations and different local authorities in order to obtain recognition of the national form of contract, and that the Federation and local associations be recommended to follow up any action of the National." It was also resolved to request the administrative committee to consider the desirability of approaching the other societies of architects with the view of getting them to adopt the Form of Contract.

#### Council Appointments.

The following appointments to the Institute Standing Committees have been made by the Council under By-law 46:—

**ART COMMITTEE.**—Sir Aston Webb, R.A. [F.]; John Belcher, A.R.A. [F.]; George Frimpton, R.A. [H.A.]; T. Raffles Davison [H.A.]; Geoffrey Lucas [A.].

**LITERATURE COMMITTEE.**—J. D. Crace [H.A.]; Francis Boud [H.A.]; G. H. Fellowes Prynne [F.]; C. Harrison Townsend [F.]; C. E. Sayer [A.].

**PRACTICE COMMITTEE.**—Ernest Flint [F.]; J. Douglass Mathews [F.]; W. E. Riley [F.]; Thomas Henry Watson [F.]; W. G. Wilson [F.].

**SCIENCE COMMITTEE.**—F. N. Jackson [H.A.]; A. W. Moore [F.]; F. T. Reade, Assoc.M.Inst.C.E. [H.A.]; Lewis Solomon [F.]; T. H. Markham [A.].

Mr. Edwin T. Hall, *Vice-President*, has been nominated by the Council to represent the Institute on the sectional committee on Bridges and General Building Construction (Chairman, Sir John Wolfe Barry, K.C.B.) of the Engineering Standards Committee.

#### Vacant London District Surveyorships.

The London County Council are about to appoint District Surveyors, under the London Building Act 1894, for the districts of Finsbury and Fulham North. Applications must be made before 28th September upon the official form, to be

obtained, together with particulars of the appointment, from the Clerk of the London County Council, County Hall, Spring Gardens, S.W.

#### Welsh Historical Monuments: Royal Commission.

The King has appointed a Royal Commission to make an inventory of the ancient and historical monuments and constructions connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people in Wales from the earliest times, and to specify those which seem most worthy of preservation. The Commissioners are:—Sir John Rhys, Principal of Jesus College, Oxford; Professor Anwyl, M.A., Professor of Celtic in the University College of Wales, Aberystwyth; Professor R. C. Bosanquet, Professor of Classical Archaeology in the University of Liverpool; Mr. E. Vincent Evans, secretary of the Cymrodorion Society; Alderman Robert Hughes, J.P., President of the Cymrodorion Society; the Rev. Griffith Hartwell Jones, rector of Ntfield; and Lieut.-Colonel W. L. Morgan, R.E., late of the Ordnance Survey. The secretary is Mr. Edward Owen, of the India Office.

#### Dr. Evans's Work at Knossos.

The *Times* of the 27th inst. publishes a long and most interesting communication from Dr. Arthur Evans, in which the brilliant and indefatigable explorer renders account of his latest discoveries on the site of Knossos, in Crete.\* Some extracts are given below as far as space permits.

... It may be remembered that west of the Palace, and connected with it by a line of paved way—"the oldest road in Europe"—there had already been brought to light part of a considerable dependency, including a remarkable shrine with fetish idols consisting of grotesque concretions of natural stone. The shrine containing these images "not made by hands" belonged indeed to the decadence of the Minæan civilisation and to the latest period of the building when its originally roomy disposition had been sacrificed to the convenience of poorer occupants. But the large hall on the east border of this house with its peristyle and lateral colonnade would have found a worthy place in the Palace itself, and this and other features pointed to a residence of great importance. The further exploration of this "Little Palace" was urgent, but the undertaking was one of considerable difficulty and expense owing to the fact that it ran into the steep side of a hill covered above by an olive wood. Beneath the roots of this, moreover, there lay a tough intervening stratum consisting of the remains of a series of unimportant Greco-Roman houses, the walls of some half-dozen of these being carried down through the Minæan floors below. But the result has been quite worth the labour. The building has proved to be of extraordinary dimensions, and, though incompletely excavated at one

\* Among the first accounts of Cretan exploration was the Paper read before the Institute by Dr. Evans himself in 1902, entitled "A Bird's-eye View of the Minæan Palace of Knossos, Crete," supplemented by Mr. Theodore Fyfe's Paper on the "Painted Plaster Decoration at Knossos." Both Papers will be found in the *Journal* for 20th December, 1902.

point, occupies an area of over 9,400 square feet, with a frontage of more than 114 feet. There were within it no less than four separate stone staircases, one of which, in addition to the two lower flights, showed remains of steps fallen from above, proving the existence of at least two storeys.

The relics found within the building show that its foundation dates from the close of the middle or the very beginning of the late Minoan Age, in other words, from about the seventeenth century before our era. A perforated sealstone was found here of a unique character, bearing an inscription in the earlier class of linear characters on two faces. Among the vases brought out, one with a high spout represented quite a new type of painted vessel, displaying on both sides papyrus groups in relief suspended from triple knots with fish between them. The discovery of remains of a painted vessel or "rhyton," in the form of a bull's head, with a small perforation to the mouth, as if it had been used for libations, led me to expect the vicinity of a domestic shrine earlier than that containing the fetishes.

This expectation was speedily confirmed by our finding, hard by, a chamber with two stone pillars of a kind so often associated with ritual remains in the Cretan buildings, and in the shaft of a contiguous drain two further cult objects, apparently derived from a chamber above, of which the "pillar room" must have formed a kind of crypt. One of these was the remains of a stepped base of stentile, provided with a socket above—in other words, the typical base for the shaft of one of the sacred double axes of the Cretan sanctuaries. The other object, the greater part of which was preserved, was a vessel of the same black stentile in the shape of a bull's head, representing a "rhyton," for ritual usage, like the clay example already discovered, but of far more elaborate workmanship. The modelling of the head and curly hair is beautifully executed, and some of the technical details are unique. The nostrils are inlaid with a kind of shell, like that out of which cameos are made, and the one eye, which was perfectly preserved, presented a still more remarkable feature. The eye within the socket was cut out of a piece of rock crystal, the pupil and iris being indicated by means of colours applied to the lower face of the crystal which had been hollowed out and has a certain magnifying power. The horns, which seem to have been of wood, had perished, but some remains of gold foil found with the object evidently belonged to their original covering. The artist who had wrought this beautiful work had engraved on the back of the neck a kind of signature or personal mark in the shape of a miniature engraving of a bull's head facing. Almost at the last moment of the excavation this "Little Palace" was found to have an unexpected extension to the south-east.

#### DISCOVERIES IN THE PALACE.

But it is time to pass on to the Palace area proper. The corridor or *cryptoporticus* on the southern front, the first section of which was discovered last year, has been traced westwards to a point where, at the close of the early period of the Palace history, it was deliberately cut into to afford additional room for a building on a lower terrace level immediately to the south. No considerable structure had been hitherto suspected on this part of the southern slope, and the discovery of this building, which may reasonably be supposed to have been a Palace dependency, took us completely by surprise and gave rise to some interesting developments. The space left between the well-preserved back wall of this house and the cutting beneath the inner line of the *cryptoporticus* had been largely choked with massive blocks from this front of the Palace, probably at the time of its final catastrophe. Here, too, were numerous other relics hurled by the same overthrow from the rooms and repositories of this part of the building. Fragmentary

as many of them are, they make up a kind of epitome of the whole later civilisation of the Minoan lords. We have here glimpses of vanished treasure, specimens of varied technique, side-lights on Minoan cult such as are supplied by a bronze votive figure and by the fragments of a series of large jars with designs of sacred double-axes and altar horns. There were other fine examples of the painted vases in the later "Palace style" and heaps of painted stucco from the walls with samples of many brilliant designs. One of the best preserved pieces shows the profile of the face of a youth, in front of which is seen the richly embroidered loin-cloth and girdle of another at a somewhat higher level. It may be reasonably concluded that this had formed part of a processional design analogous to that of the Corridor of the Procession, but in this case on a staircase wall. The Palace had been picked too clean of precious metals at the time of its destruction to leave much to hope for in that direction, but among the minor relics found was a fine gold-mounted intaglio of lapis-lazuli, exhibiting a man behind a lion. There were fragments of beautifully cut crystal bowls and boxes, and the Renaissance art of "back-work" on crystal was represented by a plaque with traces of a miniature design of a building with isodomic masonry. A very curious discovery was a rough stone box containing samples of tesserae for mosaic work, each of a different material—rock crystal of two kinds, clear and smoked, amethyst, beryl, lapis-lazuli, copper, and pure gold. Among the ivory relics is a piece of a plaque, apparently derived from a casket, with a relief—extraordinarily undercut—exhibiting the forepart of a griffin seizing a bull. The fine modelling of this relief, its concentrated force, and the imaginative anatomy of the monster's skull proclaim it to be from the hand of a master. Fragmentary as it is, it can safely be said that if this object stood alone it would sufficiently attest the extraordinarily high artistic level of the civilisation that produced it.

The contiguous building, for which this cutting into the original south front of the Palace was made at the close of the Middle Minoan period, may well have been an official residence. The basement rooms, one of which had a row of three central stone pillars, displayed a peculiarity exemplified by other external houses. Where in the Palace itself there were always wooden posts were here stone door jambs, perhaps a symptom of incipient scarcity of timber. Another point in which this and other surrounding houses differed from the Palace itself was the greater wealth of metal objects, the presence of which was doubtless due to comparative neglect by treasure seekers. Under one of the three staircases of this house was found a nest of silver bowls and a very beautiful silver jug, and one of its cellars contained a deposit of bronze arms and implements, including three saws. In another building that came to light immediately east of this was found a still more important hoard of bronzes. These consisted of a magnificent tall ewer, a large basin, three tripod caldrons, and a bronze saw nearly six feet in length, probably used for cutting stone. So, too, in a house discovered on the north borders of the Palace there occurred another bronze tripod caldron and a hoard of bronze implements and weapons in perfect condition.

The new extension of the palace to the south-west, the existence of which was discovered last year, has now been explored, and seems chiefly to consist of another large official residence. But, in spite of all our efforts, the still more interesting problem of the deep rock-cut vault under the southern porch has not yet received its final solution. Its section now appears to be more that of a sugar-loaf than of an oven, and by means of a small shaft sunk down through the later filling, it was possible at last to reach its rock floor at the extraordinary depth of about 52 feet from the original summit of the cupola. . . .

Its great antiquity is ascertained by the fact that the

earliest Palace foundations are carried deep down into it, and the latest remains of its filling only reach to the threshold of the Middle Minóan Age. Hence it is reasonable to hope that it may eventually throw some new light on the Early Minóan culture that immediately precedes the great age of the Cretan Palaces.

#### THE TOMBS OF MOCHLOS.

As it is, however, the postponement of our hopes in this respect has been somewhat compensated by the discovery, in a neighbouring area of the south front, of a well-defined house floor (lying below another of "Middle Minóan" date), containing a rich store of pottery belonging to the "Early Minóan" class. It is the first time that we have properly represented at Knossos this preliminary phase of the great Minóan culture, the importance of which has been receiving signal illustration from the discoveries made this season in the east of the Island by the American explorer Mr. Seager. In the small island, once probably peninsula, of Mochlos he has opened a series of osseous tombs with rich contents all belonging to this early period. Thanks to Mr. Seager's kindness, I was able to be present at part of the excavation, and I have his courteous permission to mention some of the remarkable results obtained. Perhaps the most surprising were a series of small gold objects including fine chains—as beautifully wrought as the best Alexandrian fabrics of the beginning of our era—artificial leaves and flowers, and (the distant anticipation surely, of the gold masks of the Mycenaean graves) gold bands with engraved and repoussé eyes for the protective blindfolding of the dead. Another remarkable feature was the abundant series of miniature stone vases, displaying great variety in form, and cut out of the most beautiful native materials, though betraying the strong influence of protodynastic Egyptian models. And here the Knossian evidence carries us a step further. Near, and apparently belonging to the same stratum as that containing the Early Minóan (II.) vases referred to on the south border of the Palace, was found a fragment of a fine diorite bowl of Egyptian fabric and material which, like another similar fragment found at an earlier stage of the excavations, very closely resembles a diorite bowl found in the tomb of King Sneferu, whose date, according to Dr. Edward Meyer's reduced version of Egyptian chronology, is 2840 B.C., though many would still carry it a millennium higher.

#### THE DOMESTIC QUARTER.

It may be said that the real work of exploration begins where wholesale excavation ends. Supplementary researches have been continued throughout the Palace area, and in carrying out this work of revision we were fortunate in again securing the services of Mr. Theodore Fyfe, the architect to whom the earlier plans of Knossos were due. The analysis of the sherds continued in the undisturbed parts of walls and foundations has been found especially useful in determining the relative chronology of various parts of the building, and its architectural stratification may now be regarded as fairly determined. A great part of the Palace plan has also been thoroughly remodelled, and it has been possible to add or complete many important features, especially on its southern borders and in the northern portico. The outlines of the north-east hall, with its peristyle and staircase, have been recovered, and a new lavatory has come to light to the north-west. Moreover, the examination of some plaster debris against the south wall of the Hall of the Double Atrium has revealed traces of a throne of wood with a high back like that in the west quarter of the building, flanked by small columns with convex fluting. This, the principal hall of the "Domestic Quarter," may therefore be regarded as a royal reception room.

It is in this domestic quarter, where the remains of upper storeys are most in evidence, that the work of excavation has involved the heaviest responsibilities. The woodwork, provisionally inserted for the support of the upper floors and galleries, has proved insufficient to withstand the violent extremes of the Cretan climate. The grand staircase, indeed, had been already rescued from its perilous position, and Mr. Christian Doll, to whose constructive ability this work was due, was happily enabled to come out again this season to follow up the work of conservation in the bordering region. Thanks to his efforts, the floor of the adjoining upper corridor has been thoroughly resupported, and at the same time the window of the lower gallery, looking on the light well of the Hall of the Double Axes, opened out—a task which involved the raising into their original position above its restored lintel of over six tons weight of sunken blocks. Another window off the "Court of the Distaffs" has been opened out in a similar way, and the paved floor of the room above, which is flanked by a stone bench in position, has been reconstituted and permanently supported.

In the neighbouring "Queen's Megaron" a still more serious question confronted us, for this, the most interesting of all the Palace halls, remained exposed to the rapidly decomposing forces of the elements. To put it in a position of permanent security involved nothing less than the roofing over the whole area, as a preliminary to which the burnt wooden columns and pillars had to be restored in stone and a large part of the east wall reconstructed. Mr. Doll's energy, however, has been equal to the task, and this considerable undertaking has now been brought to a successful conclusion. The glazing over of the light court on the east side of the Hall enables it to fulfil the function of a small Palace Museum, in which some fine painted jars have already been placed, and it is to be hoped that the remains of the wall painting found here, representing dolphins and other fishes amid sea spray, may be ultimately set up once more against the wall to which they belonged. The shape and colouring of the columns and capitals of the adjoining portico have been reproduced from designs supplied by other wall paintings, the divan of the inner section of the hall has been partly restored, and the column of the inner alcove, that served as a bath-room, has been modelled after one of the fluted examples of which impressions were preserved in an imbricium of the "Little Palace."

It is specially interesting to note that not only the general features of the "Queen's Megaron" have been thus resuscitated, but with them the original system of lighting. From the open court to the east and the narrower area that flanks the inner section of the hall the light pours in between the piers and columns just as it did of old. In cooler tones it steals into the little bath-room behind. It dimly illumines the painted spiral frieze above its white gypsum dado and falls below on the small terra-cotta bath tub, standing much as it was left some three and a half millenniums back. The little bath bears a painted design of a character that marks the close of the great "Palace Style." By whom was it last used? By a Queen, perhaps, and mother for some "Hope of Minos"—a hope that failed.

#### American Architecture.

10th August 1908.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I have read with interest Mr. Abbey's letter in the current number of the JOURNAL. So far as my observation goes, the shams in American buildings in respect of plasterwork are all in the showy interiors, where it is carried out with great

elaboration. The walling itself, although perhaps only a skin, is of costly and lasting material—*e.g.*, granite, marble, splendid brick, and terra-cotta dressings. Some millionaires' palaces are entirely of granite—statues, carving, &c. Eight million dollars' worth was quarried in three States alone in 1906, an increase of one and a quarter million over 1905. The new Cathedral and Central Library in New York are being constructed of granite and marble. In fact, it is humiliating to a Britisher to see these monumental buildings going up regardless of cost, many by order of the Government, while he knows of colonies under his own Sovereign's sway where they are in financial straits and obliged to build necessary municipal buildings of stucco, and cut out all interior finishings except those of the meanest and cheapest kind.—Yours faithfully,  
EDWARD W. HUDSON [A.].

**Mr. Medland Taylor (of Manchester): a Correction.**

In the notice of the late F. H. Oldham, of Manchester, in the last number of the *JOURNAL*, Mr. J. Medland Taylor (whose office Mr. Oldham entered as pupil or improver in the year 1864) was referred to as "*the late*." We are happy to state that Mr. Medland Taylor is still alive and in active practice at 7 Chapel Walks, Manchester. The writer tenders his sincere apologies to him for the error, and his acknowledgments to Mr. Isaac Taylor [F.], Mr. Medland Taylor's son, for calling attention to it.

**THE LATE HUGH STANNUS [F.].**

**B**Y the death of Mr. Hugh Stannus, which occurred on the 18th inst., at his residence, The Cottage, Hindhead, Surrey, the Institute loses a staunch supporter and a keen and strenuous worker. His connection with the Institute dated from the year 1878, when he passed in the Class of Proficiency the old Voluntary Architectural Examination, and with such distinction as to be awarded the then newly founded Ashpitel Prize. In 1877 he won the Institute Silver Medal for an essay on "The Decorative Treatment of Constructive Ironwork." Elected Associate in 1880, he proceeded to the Fellowship in 1887, his sponsor on the latter occasion being his friend the late John D. Sedding. Mr. Stannus gave valuable service to the Literature Committee, of which during his many years' membership he rarely missed a meeting, besides devoting much time and labour to one or other of its sub-committees. He was a constant attendant at the General Meetings and other functions of the Institute, taking part in the discussions, and on two occasions contributing Papers—one, in 1882,

on "The Artistic Treatment of Constructional Ironwork"; another, in 1884, on "The Internal Treatment of Cupolas in general, and of St. Paul's in particular." He was also an occasional contributor to the *Institute Journal*.

Hugh Hutton Stannus was born at Sheffield sixty-eight years ago. He came of an old Irish family, and was the son of the Rev. Bartholomew Stannus. His architectural education began at the local School of Art under H. D. Lomas, a late Fellow of the Institute. He afterwards studied under Alfred Stevens, eventually becoming his assistant, and remaining always his devoted disciple. The acquaintance began through his being articled to the celebrated foundry of Messrs. Hoole, at Sheffield, then engaged in the production of designs by this master. Mr. Stannus identified himself closely with the technique of foundry work, and some drawings of his for metal production were selected for the Exhibition of 1862. He assisted Stevens in the production of the Wellington Monument at St. Paul's, and prepared a design (not, however, carried out) for the decoration of the cupola of the Cathedral. When in 1903 it was decided to complete the Wellington Monument in St. Paul's by the addition of the equestrian figure of the Duke, one of the first steps of the authorities was to acquire Stevens's plaster model, which it seems owed its preservation to Mr. Stannus's care and foresight. The *Saturday Review*, which had strongly advocated the monument's being completed from the material left by Stevens, paid the following tribute to Mr. Stannus:—"The nation owes no little gratitude to this pupil of Stevens for preserving at his private cost this precious document, which was allowed to take the chances of the auction-room at Stevens's death, instead of being guarded in a museum. Mr. Stannus further helped the Committee by the loan of drawings that establish Stevens's final intention about the pedestal of this group." The model had been allowed to remain in the crypt of St. Paul's, minus the Duke's head which Mr. Stannus had sawn off and preserved separately for greater security.

Mr. Stannus studied for a time in the Architectural School of the Royal Academy, under Mr. Philip Spiers, and started in independent practice in London, in the neighbourhood of Kennington, in 1879. His early commissions included the alteration and decoration of a church at Sheffield; the offices of the Phoenix Brewery at Bedford—an admirable example of town architecture; the interior architectural fitting and decoration of a mansion at Ascot; the Sunday School Centenary Monument; and he built for himself about this period The Cottage at Hindhead, Surrey. The late Mr. Sedding, in proposing him for the Fellowship, testified to the thoroughness of Stannus's acquaintance with Classic architecture, both on its artistic and scientific sides, and also to the extensive study he had made of painting and sculpture

as subservient to architecture. Mr. Stannus assisted the late Mr. Fergusson in some of the illustrations for his books, notably in the case of St. Paul's and the Parthenon; and he wrote an essay on the History of Founding in Brass, Copper, and Bronze, which secured for him the "freedom and livery" of the Founders' Company. A few months ago he was sworn in as sub-Warden of the Company.

In later years Mr. Stannus devoted himself almost entirely to literary work and teaching. He taught for a time at the Royal Academy modelling schools for architectural students, lectured at University College and at the Royal College of Art, South Kensington; was for two years Director of Architectural Studies at the Manchester School of Art, and subsequently lectured at the evening schools of the Architectural Association. He was Cantor Lecturer in 1890 and 1898, and in 1901 delivered a course of lectures in the Applied Art Section of the Royal Society of Arts on "Romanesque Architecture in North Italy." He had paid several visits to Italy, and a few years ago was engaged for a season with Professor Flinders Petrie in Egypt. His published works comprise the large and very important folio volume *Alfred Stevens and His Work* (1891); *Decorative Treatment of Natural Foliage* (1891); *Decorative Treatment of Artificial Foliage* (1895); *Theory of Storiation in Applied Art*; *Some Principles of Form Design in Applied Art* (1898); *Some Examples of Romanesque Architecture in North Italy* (1901). He revised, for the third English edition, Meyer's *Handbook of Ornament*.

In compliance with Mr. Stannus's express wish, the funeral ceremony was kept as simple as possible. The remains were cremated at Woking on Saturday, the 22nd inst.

#### SOME RECOLLECTIONS OF THE LATE HUGH STANNUS.

By R. PHENE SPIERS [F.].

I am quite unable to denote for certain when I first met Stannus, but I imagine it may have been in 1871, and at the Architectural Association. I was attracted to him at once—first, in consequence of the pleasure which it seemed to give him to render service of any kind; and, secondly, because he always seemed to attach great value to the advice I gave him. Beyond the fact that he was a pupil of Alfred Stevens, the sculptor of the Wellington monument in St. Paul's Cathedral, I am not acquainted with the details of his architectural training, but I recollect that he was anxious to improve his knowledge of design, and although he was older than any other student then in the architectural school of the Royal Academy I persuaded him to present himself as a probationer. On his admission as a student I recognised at once the grasp he had of the principles

which guided the Italian revivalists of the sixteenth century, and there are few architects at the present day—and that is saying a great deal—who would be able to rival him either in design or in draughtsmanship. Thirty years ago, therefore, he was much in advance of any other student, and I am certain that, if he had had the chance of winning some important competition, he would have made a great name for himself. He sent in a set of drawings for the great American competition for the University of California, but as he had no knowledge of the French method of tinting architectural drawings he stood no chance as against either the French competitors or the American architects who had studied in the *École des Beaux-Arts* at Paris. I compared his design with that of the winner of the competition, a French architect, and found that he had conceived a design similar in plan and setting-out to the fortunate winner, but showing more knowledge of the peculiarities of the site and the undulations of the ground. He had, in fact, mastered the problem better than any other competitor, but the absence of the sectional drawings which characterised the other designs placed him at a disadvantage, as his design was not apparently understood by the judges.

Stannus always felt that his weakest side was the lack of a practical acquaintance with construction and the writing of specifications; but as he passed the Associates' examination in 1873 and carried off the Ashpitel Prize the first year it was awarded, his practical knowledge must have been acquired at that time. He had also the courage of his opinions, as one of his first jobs was a little house he built for himself at Hindhead in Surrey. When obliged to locate himself either in Manchester or London he used to let this house, and from one of his tenants I had the most favorable account of its comfort and solid construction. Another tenant, an American, was so charmed with it that he again and again offered to buy the property. As poor Stannus hoped some day to be able to retire there, he always refused to part with it.

I have mentioned Stannus's connection with Alfred Stevens. At the time he entered the Academy schools, in 1872 or 1873, owing to the action of the then First Commissioner of Works, Mr. Ayrton, there was some chance of the Wellington memorial being taken out of Stevens's hands, and he told Stannus that if that were done he would smash up all his work. Fortunately, through the medium of Mr. Leonard Collmann,\* this course was not taken, but I recollect Stannus's trouble and anxiety through the whole period.

\* It is to this same Mr. Collmann that we are indebted for the Stevens's lions on the railing formerly existing at the British Museum. He knew the ironfounders who obtained the contract for the railings which were designed by Sydney Smirke. The model made from Mr. Smirke's drawing of a seated lion was unsatisfactory, and the ironfounder appealed to Mr. Collmann, who introduced Stevens for the work.

Somewhere about twenty years ago Lord (then Sir Frederic) Leighton prevailed upon the Council of the Royal Academy to establish a modelling school for the architectural students, and Stannus, who was well known to the President, was appointed the first teacher. For some years it was a great success: but, adding another evening of attendance at the Academy school, the students diminished in number, so much so that Stannus felt he was not earning his salary. He came to ask me, therefore, whether I should object to his giving a course of demonstrations on classic mouldings, illustrating his subject by drawings on the blackboard. I was only too glad that he should introduce this new training. I should like to have attended his lectures, but I saw his notes and sometimes the drawings he had made, and they were quite admirable. Either from this or other causes I think he felt that his mission lay in teaching, and he gave a series of lectures at South Kensington, and had, I believe, a numerous class there. This, as also his work in the Academy schools, was given up when he was appointed master of the architectural school at Manchester, to which he devoted one or two years. In later years he had lectured in various towns, and the Architectural Association has had the advantage of his teaching. I have understood that he had for some years devoted himself to a book on the Classic orders, a subject on which he had considerable knowledge, having made tours in Greece and Italy and taken photographs of the best known examples.

Personally I shall feel his loss very greatly, for a month never passed without his calling to see me to ask my opinion on some knotty point, and I feel I owe a great deal of such knowledge as I possess to the searching enquiries he was in the habit of making. The students of the Architectural Association and the members of the Art Workers' Guild will greatly deplore his death, as he could always be counted upon to render a service when it was required in an emergency.

22nd August 1908.

## THE INTERNATIONAL ART CONGRESS.

By FRANCIS HOOPER [F.].

**I**T was with great diffidence that I acceded to the request of the Editor of the JOURNAL to furnish some account of this Congress for the guidance of our members as to its aims and objects and the trend of the discussions which have taken place, and I ask the indulgence of the authors of papers, who have been all too briefly reported.

At the outset I should state that this is the third Congress, the first having been held in Paris during the Exhibition of 1900, the second in Berne in 1904, the present in London during the first week of August. The purpose of the Congress is "the

development of Drawing and Art Teaching and their application to Industries." The Earl of Carlisle, of Naworth Castle, was elected President, the meetings were chiefly held in the Hall of the Imperial Institute, whilst a most comprehensive Exhibition of students' work occupied some of the new galleries in the Victoria and Albert Museum. The 1,800 members attending were for the most part art teachers, official delegates from some thirty-seven countries, including almost every Continental nation of Europe, with some of our most distant Colonies. Whilst both Scotland and Ireland were adequately represented, our Home Government regrettably maintained an apparently stolid indifference to the importance, both educational and commercial, of the subjects dealt with and the opportunity of taking counsel with experts of other countries. The President in his opening address alluded feelingly to this absence of official recognition, and urged the need of strenuous effort to arouse public interest in the value of artistic training in the schools throughout our land, in view of the increasing competition in every branch of industry and the advance of cultivated taste in every part of the world.

Amongst the earlier Papers was one by Mr. T. C. Horsfall, of Manchester, upon "Disseminating Art Knowledge," in which he described the effort of the Committee of the Manchester Art Museum since its foundation in 1877. Its work consisted in establishing loan collections of carefully selected pictures for use in elementary schools, with natural objects illustrative of plant and bird life in the locality, together with such objects in art forms. No part of the Museum had more influence for good than the model sitting-room and bedroom prepared by the late William Morris and Mr. W. A. S. Benson, with a view to show visitors that even a small house might be made artistic and attractive. Its influence has already extended to America, where Professor Goodyear has established collections on a large scale in connection with Brooklyn Museum. Following naturally was a plea for improvement in the environment and dwellings of the people, and for the better physical and manual training of the children of our cities and villages.

Monsieur A. Keller, of the École Normale of Saint-Cloud, also dealt with "Art in the School and Home," insisting that the teacher should suppress his own individuality and teach his pupil by the observation of Nature to develop in himself some feeling of appreciation of art, growth of taste and the sense of beauty surely following. M. Keller suggested that the regulation book-prizes might be superseded by really well-framed engravings, and that the cultivation of flowers should be encouraged amongst children. M. Léon Rictor advocated competitions to encourage the artistic embellishment of dwellings, school buildings, and even shops, and the publication of general art manuals for the use of

teachers in the public elementary schools. Miss E. P. Hughes, a former principal of the Cambridge Training College for Secondary Schools, dealt with the value of pictures illustrating lessons which, whilst decorating the class-rooms, would form the nucleus of a picture gallery. Commenting on the striking appreciation of art in Japan, amongst rich and poor alike, Miss Hughes testified to the resulting love for the delicate beauties of nature and the most refined beauties of art in degrees scarcely credible by visitors to that interesting country. "The Development of Public Taste in Art" was dealt with by Mr. T. Delgaty Dunn, Chairman of the Scottish Committee. He declared that the poverty of artistic appreciation at home reflected itself in the search for cheap and tawdry novelties. He had no faith in improving public taste by legislation. Their work lay with the young, and he urged that a portion of the time now given to drawing might advantageously be utilised in imparting knowledge of the history and principles of art. Thus the art-idea would be developed, and, if art was ever to be other than a weariness in later years, pupils must early become accustomed to regard sculpture and architecture with intelligence. What were commonly called minor and industrial arts of a people, were their universal and every-day arts, and these reflected the people's culture as certainly as did their literature and architecture. Fine proportions, sound construction, and suitable enrichment, were qualities which made for beauty; but their recognition and appreciation were not instinctive. Drawing, modelling, and colouring were some of the means by which they might hope to develop and direct self-activity, but it was not on these alone that the training of the young in art-idea rested. The time seemed opportune for an effort to add to the hand and eye training such regular and positive instruction in the evolution and principles of art as would lead to an intelligent perception of beauty, and a cultivated judgment on the part of pupils as would contribute to their intellectual and social well-being. Professor Beresford Pite, who so ably directs the Architectural School of the Royal College of Art, took part in the subsequent discussion of the Papers. He claimed that the simplest means of disseminating art was to avoid dissociating it from life; that history should be taught by historic art. The Greek art was a part of Greek life. The classical teaching at our universities lost half its power and half its interest when dissociated from classic archaeology and classic art. It was to him extraordinary that students of Greek literature and thought were not definitely trained in the knowledge of Greek architecture and sculpture. It was the same with the Renaissance. The moment they dissociated art from history they lost the real meaning of art, for life was thought. He concluded by stating that the one sovereign way of disseminating sound ideas in art and in elevating public taste was to

employ good architects and to put up good buildings. Subsequently, in the Lecture Theatre, Mr. E. Cooke, of "Lavania," Wimbledon Park, lectured on "Experiments in Teaching Drawing adapted to the Child's Nature," with illustrations by which he demonstrated, as the result of long and close observation, the natural muscular movements of the young child's arms and its mental impression of living forms, both of which he utilised as the basis of exercises tending by gradual stages into a development of form and pattern which by repetition produced a decorative scheme, and formed the foundation for design and colour study, the whole being worthy of careful consideration by those dealing with the very young.

On Tuesday, under the chairmanship of Sir John Gorst, Professor Lethaby read a Paper on "Apprenticeship and Education," contending that education had become too bookish. Instead of learning directly how to draw in the simplest and yet surest way, the pupil has now to follow various subdivisions in artificial compartments, comprising freehand, model drawing, perspective, life-drawing, &c. The great end should be production; the great thing was the trade—the craft, and sufficient culture could be hung to any sufficient trade. Drawing was best taught along with apprenticeship to a craft, otherwise it became so generalised that it was difficult for the ordinary student to see its application, and it became only a "subject." The old masters, as well as the modern masters, regarded their school studies from "the life" as work to be laid up for reference; hence "life-drawings" became observations of attitude and action, forming so much stock-in-trade. The professor urged his own view that all art training should be in close relationship to some craft. Mr. E. R. Taylor, late headmaster of the Birmingham School of Art, dealt with the "Organisation of Professional Art Training," incidentally quoting aptly the dictum of Emerson that "though we travel the world over to find the beautiful, we must carry it with us or we find it not." This faith had no place with the world in general, including, with comparatively few exceptions, the cultured in even the educationists. The danger was great in art teaching, as it was the Cinderella of education, admitted only on sufferance, and not as essential. We had come to consider ourselves as not an artistic nation, despite the fact that our workers in former times built those cottages and manor-houses with their furnishings which were now regarded as art treasures. There was an imperative need to get back that sense of fitness and right-doing. It followed that until art was made an essential in all our universities and schools, in the same manner as other essentials, the primary object of technical craft and art schools must be to develop and train the innate vision of beauty. This was provided by drawing, using the word in

its widest sense. "Imagination in Figure Composition" was dealt with by M. Tardos, Professor of Composition in the Royal Hungarian College, Budapest. He held that after anatomical study and the articulation of the joints and their proportion, action drawings from imagination could be made to show the human figure performing physical movements, the right grouping of figures being as important as the correct delineation of the simple figure. Mr. D. M. Berry spoke on "Craftsmen and Schools of Art" and the need of inculcating the decorative factor into every sphere of handicraft, lamenting the present insignificant influence of schools of art upon local industries. Professor Paul Valet, of Paris, followed in a similar strain, and later Mr. Francis Black, of the Camden School of Art, London, spoke on the "Co-ordination of Art-teaching," suggesting the formation of Consultative Committees consisting of employers, employes, and the local authority, who would offer suggestions as to the practical side of the training, and secure that the students should be steadily trained for the workshop with a reasonable hope of being admitted. Manufacturing centres such as Birmingham, Sheffield, Burslem, Nottingham, and Manchester have their schemes for transfer from the elementary to the evening intermediate school well in hand, while London has initiated a similar system at Camberwell and Camden.

On Wednesday Papers were read upon "The Training of Teachers in England and Wales" and upon "Art Training Abroad," from which it would appear there is universal dissatisfaction with the present system. Professor Nadler, of Budapest, explained that at the Royal Hungarian College of Art, diplomas were awarded after examination in figure drawing, modelling, freehand, perspective, architectural drawing, decorative drawing, history of art, pedagogy, and Hungarian literature, but he claimed that the teaching of drawing should be on a par with the other subjects of the curriculum, and that the teachers should have the same status as the rest. Professor Breesford Pita explained the system of training at the Royal College of Art. Many local authorities have scholarships tenable at the College for a five years' course, consisting of six months' training in each of the four schools of architecture, design, decorative painting and modelling, with sculpture, followed by three years of specialisation. Mr. Egerton Hine, art master at Harrow, urged the introduction of drawing into all university courses. The following day was spent in the consideration of "Art Education of the Young," as well as Museum co-operation in teaching.

Bearing in mind that consideration of teaching was the essential purpose of the Congress, much original thought and experience were embodied in the speeches and discussions. The exhibition of drawings in one of the new galleries of the Victoria and Albert Museum was of extreme interest, illustrating as it did the work of State schools in

France, Germany, Switzerland, Hungary, Holland, Sweden, and the United States of America, our Colonies of Canada, New South Wales, Cape Colony, Scotland, Ireland, the Provinces and London, which was remarkably well represented. The Institute Council must feel gratified that it voted substantial financial support to this Congress—the nature of which was novel, exceptional, and extremely useful.

## REVIEWS.

### ARCHITECTURAL COMPOSITION.

*An Attempt to order and phrase Ideas which hitherto have been only felt by the Instinctive Taste of Designers. By J. Beverley Robinson, Member of the American Institute of Architects. 8s. Lond. & New York. 1908. Price 10s. net. [B. T. Datsford, 94 High Holborn, W.C.]*

Mr. J. B. Robinson has, in a volume of 226 pages, attempted to teach the underlying principles which govern the massing of the parts of a building so that the composition of the whole shall be harmonious.

Undoubtedly there is much in Mr. Robinson's theories that might be of some service to the architect in designing his buildings, but it seems to us that Mr. Robinson is inclined to be too ready to lay down the law and assume that architectural composition is an exact science.

The author's object appears to be to raise the power to design to the dignity of a science, but for ourselves we must frankly admit that this seems impossible.

In chapter xvi. on "Asymmetrical Composition," reference is made to a modest house which appears to have been designed in accordance with the author's precepts. There is nothing very striking in its composition: it has a front door in the centre or nearly so, and a circular bay on either side; but such a design, Mr. Robinson considers, "is wonderfully improved if small differences are introduced. If one of the bays is 15 feet across, make the other 14; and, keeping the roofs of the same pitch, let the ridge of one work out a few inches below that of the other. Make the room in which the wider bay occurs a foot or two wider than the corresponding room, thus bringing the entrance out of centre, and place the central window above it still a few inches more off centre. These divergences will be distinguishable only to a critical professional observer, and will often be overlooked even by him, while they will add incredibly to the softness of effect of the completed building."

Now if this is a principle governing the composition in one building the same principle should, we assume, hold good in the composition of all buildings. The greatest artists the world has ever

known do not appear to have adopted this principle in the designs of the Greek temples. But as design is really a matter of taste and not of science we do not want to dogmatise.

The book is profusely illustrated with examples of known and imaginary buildings, which Mr. Robinson ably criticises.

GEORGE HUBBARD [F.].

### SOME OLD ENGLISH ART.

*Art in England during the Elizabethan and Stuart Periods. By Aylmer Vallance, with a Note on the First Century of English Engraving by Malcolm C. Salaman. Edited by Charles Holme. 4s. Lond. 1908. Price 5s. net. [Offices of "The Studio."]*

Although bearing the above comprehensive title, the special spring number of the *Studio* is none the less welcome, resolving itself, as it does, into dissertation and illustration of the domestic phase only of this interesting transitional period of English art, interesting as a time when no more nor less than a pitched battle was in progress between Gothic conservatism and Classic innovation, the latter eventually ousting the deep-seated traditions of the middle age by reason chiefly of our introduction to the system of symmetrical planning and its consequent effect upon the exterior.

Apart from functions descriptive, the text, by Mr. Aylmer Vallance, is rendered valuable by its probings into the organic bases of most of the picturesque features of timber-framed buildings and the theory advanced that varied manners of framing are of an origin local rather than periodic. Dotted about a waste of somewhat arid pen-and-ink illustrations are to be found some delightful oases in the shape of reproductions from pencil drawings by William Twopeny made during the early part of the last century. These are plainly the work of a faithful but sympathetic recorder who did naught extenuate nor set down in malice. The drawing of Bishop Sparrow's House, Ipswich, is indeed a fine example of what can be done with pencil as a medium. A few colour illustrations, of excellent technique, after E. Arthur Rowe, Wilfrid Ball, R.E., and H. P. Clifford, R.B.A., are refreshing. The furniture, textiles, and engraving of the period are also touched upon in an instructive manner.

ROBERT P. OGLESBY.

### OLD ENGLISH COUNTRY BUILDINGS.

*Old Cottages and Farmhouses in Surrey. Photographs by W. Galsworthy Davie. Introduction and Sketches by W. Curtis Green. 8s. Lond., 1908. Price 21s. [E. T. Batsford, 94 High Holborn, W.C.]*

This book is another collection of collotypes from photographs by Mr. Galsworthy Davie of delightful old cottages and farmhouses, with an interesting introduction and sketches by Mr. W. Curtis Green. Mr. Davie is to be congratulated on the choice of subjects and aspect, making

artistic pictures without in any way detracting from the architectural value of the photograph. The introduction contains details of the timber frame construction and plasterwork, tiling, brickwork, and metalwork; all illustrated by sketches or photographs and references to the plates which follow. The beauty of many of the subjects would be much improved by the effect of the colouring, which unfortunately is lost, to a great extent, in photography, but the textures of the various materials used are important factors in the pleasing results. The irregular outlines of many of the buildings illustrated in the book have a charm of their own, and are undoubtedly produced by accident and force of circumstances rather than by design; in attempts to design these accidents many modern buildings fail to express the character possessed by the old. It is useless in the present day to attempt to reproduce these old buildings for modern requirements, because the conditions are so different; but a careful study of them will enable us to realise the methods adopted, and the conditions under which the work was executed with such pleasing results, and thus give some degree of true character and completeness to our modern domestic work. Take, for example, the overhanging upper story, eaves, and gables—these appear to indicate the desire to protect from the weather the timber construction and filling-in; again, the intersection between the hip and ridge tiles would be a little awkward, while an easier and more pleasing effect is obtained by stopping the hips a little short and forming a gullet, and the hiping back above the window in the gable ends, the space above being unnecessary in the roof, and less wall surface is exposed. These minor details, of which there are many, show that the workman of the past evidently took a keen interest in his work and put expression into it. Do we fully realise how great is the loss, in modern work, of the individuality and sentiment found in these old buildings? It will be noticed that most, if not all, of the examples illustrated are not more than two stories high, and another is sometimes in the roof; this has been pointed out before as giving the most pleasing arrangement for domestic work.

We hope Mr. Davie will continue his work of collecting these valuable records of old work in other counties. Their value would be enhanced by the addition of some plans and sections to scale, or at least with the principal dimensions, to enable us to form a better conception of the scale and proportions of the buildings.

FREDK. OSBORNE SMITH [A.].

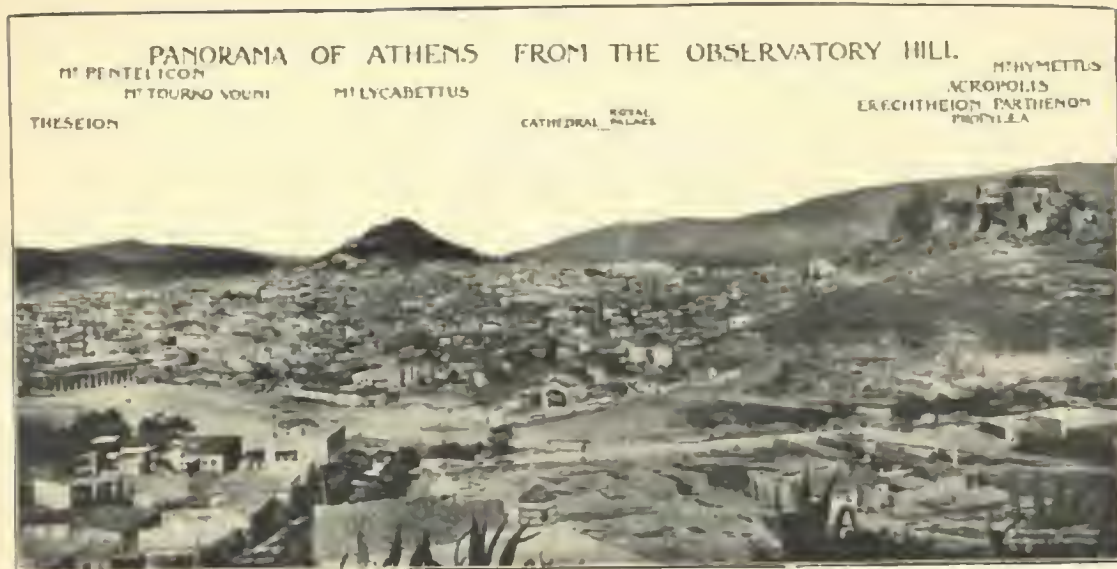


FIG. 1.

## THE PARTHENON, AND ITS INFLUENCE ON THE ARCHITECTURE OF THE CLASSIC REVIVAL.

By CHARLES GOURLAY, B.Sc. [A.]. Professor of Architecture. Glasgow and West of Scotland Technical College.

### I.—THE PARTHENON.

**A**THERS is situated four miles from the sea, and its port is the Piræus. The modern city lies between a lofty hill called Lycabettus, 910 feet high, and the hill called the Acropolis, which is about 510 feet in height. The latter is a rock of coarse bluish-grey limestone and red schist which was at first of a conical form, but just before the time of Pericles it was broadened to its present shape, so that it is now about 1,000 feet by 400, surrounded by very steep sides except at the west end.

The principal buildings, now in ruins, on the Acropolis are the Parthenon, Erechtheion, Propylea, and the little temple of Nike Apteros, which were all built in the fifth century B.C., an era which has been fitly named the "Golden Age" of Greece. It is to the first mentioned of these—the Parthenon—that the reader's attention will now be directed. The building occupies the crown of the hill, and, as has been well said, "is the finest edifice on the finest site in the world." After passing through the Propylea the best obtainable view of the Parthenon is seen, and its proportions as viewed from this point are certainly most impressive.

Although no building has been more completely and thoroughly studied than the Parthenon, yet on a close examination of the actual building as it now stands the student receives a more accurate impression of its real greatness than can be obtained by the study of Penrose's great work, *The Principles of Athenian Architecture*,\* and of other works dealing more or less with this temple. As a result of thus studying the remains "on the spot," the impressions formed by the author are that it is undoubtedly the most admirably

\* Which the author has chiefly consulted in preparing this article.

proportioned, beautifully detailed and soundly constructed building ever erected. There is no false construction about it, for

In the elder days of Art  
Builders wrought with greatest care  
Each minute and unseen part—  
For the gods see everywhere;

and although these words of the poet Longfellow were written about a Gothic cathedral, yet they apply even more truly to this Classic temple.

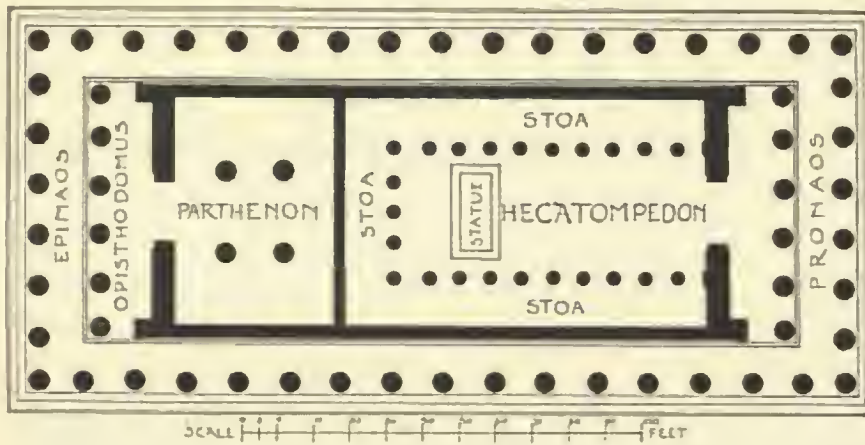
The Parthenon was built between 454 and 438 B.C., and its architect was Ictinus, who wrote a book about the building, which is lost. Ictinus was assisted by Callicrates, who is sometimes referred to as if he were the master builder. The edifice was a temple dedicated to the virgin goddess Athena Parthenos, who was especially the deity of Athens, and was the goddess of knowledge and wisdom. In plan it consists of a naos or sacred cella called the Hecatompedon, which term indicates the length of this part to be 100 Attic feet, and it was in this naos that the statue of the goddess stood. The Hecatompedon was divided into three aisles by means of two colonnades of ten columns in each. Three additional columns were placed at the western end so as to form a stoa or ambulatory round that end in continuation of the side aisles, which enabled the statue to be seen all round. These columns were Doric with only sixteen flutes on their shafts, while the normal number of twenty is that used on the external columns. There is another naos to the west of the Hecatompedon, which is often called the Opisthodomus or treasury, but this naos is really the Parthenon proper, for in it the maiden goddesses known as the Parthenoi were worshipped. The columns in this naos were four in number and of the Ionic order, which, being more slender than Doric ones, would occupy less room on the floor. The space between the inner colonnade of the portico and the wall of the naos at the western end of the edifice is the Opisthodomus or treasury. Bronze



FIG. 2.—THE ACROPOLIS, ATHENS, FROM PHILOPAPPUS HILL.

English Photo. Co.

## PLAN OF THE PARTHENON, ATHENS.



railings were placed between the columns of the inner colonnade, also between the end columns and the antæ, which railings extended the full height of the columns, while there were gates in the central opening. Thus this part was made quite a safe place for storing valuables, and hence it received its name.

The portico to the east is called the Pronaos, that being the front of the temple, while the one at the western end is the Epinaos. The edifice has eight columns on each front, and was surrounded by columns; hence it is termed an octastyle peripteral temple; and as it has seventeen columns on each flank—counting the corner ones both for the front and side—it is in accordance with the rule that a Greek Doric temple should have twice as many columns, *plus* one in the flank, as it had in the front. These columns are of the Doric order, of which they form the finest example. In height they are 34 feet 3 inches, being about five and a half times the diameter of the shaft at its base, which is 6 feet 3 inches, except the columns at the four corners, which are 6 feet 4½ inches in diameter, in order that when the angle column was seen against the sky it would not appear thinner than the others, while when seen along with the others the effect of the slight increase in diameter would be to give the corner of the edifice an appearance of greater strength than it would otherwise have had.\* The entasis was a slight outward curve worked on the tapered outline of the column to prevent it appearing hollow, which appearance it would have if it were straight. The entasis on the columns of the Parthenon may be best seen by taking a position exactly in a line with the inner side of the front row of columns in the eastern portico and looking from south to north. In this view the inner line of the column is seen against the blue sky and the extreme delicacy of the curve becomes apparent.

The columns rest on three great steps which form the stylobate, the length and breadth of the topmost step having in plan almost exactly the ratio of 9 to 4, the figures being approximately 228 and 101 feet respectively. These steps were not laid level, but were curved upwards in the centre of their length with the object of preventing them from appearing hollow as long level lines tend to appear. The curvature is so slight, however, that it is only perceptible when it is looked for. The steps vary slightly in height, being each about

\* The fact that the columns next the corner ones are placed closer together than the others is another element

which gives that appearance of greater strength in an angular view of the Parthenon.

1 foot 9 inches, and this very inconvenient height for ascending proves the necessity for the mounting blocks which were placed opposite the entrances.

Above the columns runs the entablature, the horizontal lines of which were also curved upwards, though to a less extent than those of the stylobate. At each end of the temple there was a pediment, between which ran the straight ridge-line of the roof. There is no doubt that the treatment of the external surface of the roof would be broad and simple, for only such would have the effect of binding the whole edifice together to form one grand mass.

Within the outer row of columns there was at both ends an inner row, which with the two cellæ rested on a platform raised two steps above that of the stylobate, while at the top ran the Panathenaic frieze, which was continuous round the whole of this inner block of the structure. The ceiling of the stoa, 9 feet wide, which extended along the flanks of the



*English Photo. Co.*

FIG. 4.—VIEW SHOWING CURVATURE OF STYLOBATE OF PARTHENON.

building between the outer columns and the walls of the cellæ, was of a double row of deep marble panels, called *lacunaria*; but at the porticoes this space was 11 feet wide, and the panelling was here supported by marble beams.

The roof of the temple probably consisted of framed trusses of timber placed over each of the internal columns, which may have carried horizontal rafters or battens laid so as to directly support the marble tiling. The tiles were of Parian marble, which being translucent would allow light in a subdued form to pass through for the illumination of the interior. All traces of the method of roofing are gone, but it is known that the tiling was of marble from the island of Paros. In Athens at the present day Greek churches are not well lit, and perhaps this tendency to poorly lit interiors may be derived from ancient pagan times. How the Parthenon was lit is a problem which many have tried to solve. It is probable that the amount of light which passed through the tiling was sufficient for most purposes, and that when greater lighting was required the door, which was 33 feet high and 16 feet wide,

was opened, whereby the interior would be flooded with light. This great doorway is slightly narrower at the head than it is at the sill, in order to prevent it from having the appearance of being wider above than below, which tendency would exist if the jambs were vertical. It is probable that the jambs were of wood covered with bronze.

The foundation was of rock, but as it was a conical point on which the building rested, a level site had to be prepared for it. This was done by levelling the rock at the north-west corner and by building over the remainder of the site a massive substructure of coarse stone, each block of which was rectangular in shape, thus enabling the work to be built in courses. This substructure was built in the time of Cimon, who was statesman before Pericles, and was intended for a temple of different proportions. Although this is so, yet it is remarkable that the upper surface of this substructure, upon which the stylobate rests, is curved. Further, the paving slabs in the interior of the cella, which are 12 inches thick, are not laid quite level, but have a gentle slope.

The outer columns which rested on the stylobate were not built vertical, but are inclined slightly inwards, the object being to prevent their appearing to lean outwards at the top. The faces of the architrave and frieze were similarly inclined inwards, but the face of the corona of the cornice is inclined outwards, probably with the intention of preventing the inward inclination of the columns, architrave, and frieze from being observed by the spectator.

The architrave has a broad soffit, the two joints in which show that it is built of three pieces of marble placed side by side, the central parts of the interior sides being hollowed out to reduce the weight. Upon the architrave the triglyphs rest, and between these were slipped the sculptured blocks forming the metopæ, behind which hollow spaces were left, with the object of lessening the weight to be carried by the architrave. All these stones were, however, bound together with metal cramps. Above all, the large stones forming the cornice were laid. The cornice projected considerably beyond the face of the frieze, and had on its soffit mutule with guttæ formed on their lower surfaces. These mutule gave a broken lower edge



*English Photo Co.*

FIG. 5.—THE PARTHENON: SOUTH COLONNADE.

to the cornice, which made the shadow falling on the sculptured metopæ a broken-edged and not a straight-lined one.

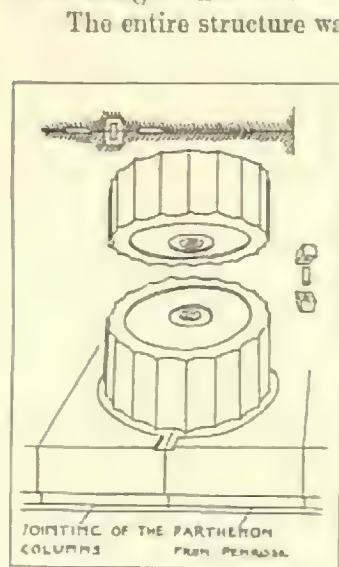


FIG. 6.

on their edges. In later times these metal cramps were searched for by cutting into the walls from the face and tearing them from their places to obtain the iron, thus destroying




Phot. by the Author.

FIG. 7.—FALLEN PIECE OF THE PARTHENON.

smooth drafts the surface was slightly roughened, presumably to give the stones a firmer grip on one another.

The entire structure was built of Pentelicon marble, which is beautifully white when first cut, but soon turns slightly yellow upon exposure to the weather and in course of time assumes a golden tinge, while those parts which are less exposed become a rich brown, all owing to the oxidation of the iron contained in the stone, the result being to give the Parthenon a colour effect which is charming.

The walls of the Parthenon are built solid: their base-stones are called orthostata, and are double the height of the other courses. Mortar was not used in any part of the building—the close-fitting of the jointing of the stones left no room for any—while the large size of the stones used prevented, by their weight and the friction of their surfaces, any movement; yet, nevertheless, they are secured with iron cramps of  shape, which are of very varied sizes—the average may be said to be about 20 inches long. These cramps were fitted into the beds of the stones at the vertical joints, extending downwards about an inch and a quarter, and had a thickness of about three-eighths of an inch

the beautiful stonework and tending to make the building become ruinous. This close-jointing is a very remarkable feature of the Greek work of the Periclean age. It is so fine that one can hardly detect the joint either by sight or by feeling for it by the finger-nail, and the nearest resemblance to it the author has seen in modern work is in the building for the Houses of Parliament in Vienna, designed by Baron von Hansen, where the joints are very fine indeed, but not so close as they are in the Parthenon. The object of such close-jointing must mainly have been to give the appearance of a monolithic structure, but it will also be remembered that such perfect jointing is an element of great value as regards the duration of the building. It is considered that the fine-jointing of the Parthenon could only have been obtained by rubbing the blocks on one another; and if this were so, one can only marvel at the expenditure of both technical skill and patience necessary to carry out such a work. All the horizontal and vertical joints were thus treated, the outer edges of all the joints being left perfectly smooth, while within these

smooth drafts the surface was slightly roughened, presumably to give the stones a firmer grip on one another.

Thus far, reference has been made only to the actual jointing; but how were the outer faces of the stones prepared, built, and finished? From unfinished buildings, such as the Propylea at Athens, and others throughout Greece and Sicily, evidence has been obtained that a draft was accurately run round all the outer surfaces of every stone, and that the stones were built with unfinished faces, there being also projections, called ears or ancones, left on their surfaces to enable them to be set in position.

After the stylobate and pavement were in position the building of the columns was undertaken. A circular draft was cut on the top step of the stylobate sufficiently large to allow of the bottom drum of the column being exactly set and rubbed on the spot where it was to be laid. The fluting on this drum was worked at its base for the height of a few inches only, the remainder of the drum being roughly made to a cylindrical form. The inward inclination of the columns must have added considerably to the difficulty of forming this joint. Then the next drum was prepared by rubbing it on the one already in position. The exact section of the junction between the drums consisted of a perfectly close joint

for nine inches all round the exterior, and for about 10 inches at the centre; the intermediate surface being slightly recessed for 18 inches all round, but next to the central level part the recessing was about one-eighth of an inch, and the bottom of this was rough. Then at the centre slightly tapered holes, about four by four inches on plan, and about three inches deep, were cut in each drum, into which cedar-wood plugs were



*Photo. by the Author.*

FIG. 8.—VALLEY CAPITAL OF THE PARTHENON.

fitted. Finally a round wooden pin or dowel was fitted into these plugs. After the rubbing of the one surface upon the other was completed there would be a scum, which it would be necessary to wash away before a close joint could be obtained, and to do so the drum would require to be raised. Probably the object of the pin was to guide the upper drum when it was being finally placed upon the lower one by the workmen. Further, in the case of an upper drum being rubbed upon a lower one which had been set in position, no doubt another object the pin might serve would be to prevent the very slightest movement of the drum or drums already placed.

The capital, with its abacus, echinus, annulets, and fluting, down to the hypotrachelium or necking, was on one block of marble, weighing, according to Penrose, about three tons, which was turned in a lathe. The uppermost drum had the fluting started on its upper edge, and on this drum the flutes were rather deeper in proportion to their width than they were on the lower drums. The section of the fluting was not an exact ellipse, but was formed of circular arcs. After the walls the entablature and all other parts of the building were built and completely finished; then the fluting was cut on the columns. This method of cutting the flutes after the columns were built may be compared with the modern way of preparing a zinc mould for the upper and lower surfaces of every drum, and cutting the flutes on each

one before it is placed in position. About 1841 some of the Parthenon columns were rebuilt, but the doing of this was, fortunately, discontinued because the drums did not exactly fit one another, and the result was very unsatisfactory. Finally the last part of the building to be completed was the stylobate. In this way there was very little risk of the sharp edges of the steps being chipped by carrying up the material for the walls.

The Parthenon was enriched with colour decoration, both internally and externally, though some authorities maintain that the application of this colour treatment may have taken place at a later time than that of the erection of the temple. Doric frets were largely employed because of their suitability for the treatment of the broad bands of marble which

occur in many parts of the edifice. Perfect harmony prevailed between this decoration and the surface to which it was applied. On a flat surface a straight-line decorative form was painted, while on a curved one the enrichment was of a flowing form, suited to the nature of the curve, the honeysuckle and scroll forms being largely used for this purpose, as on the cymatium.

There appears to have been little carving on the building. There was the egg-and-dart on the capitals of the antæ, and the small bead-and-reel on the bed-mould of the cornice all round the exterior; also the lion's head near each corner

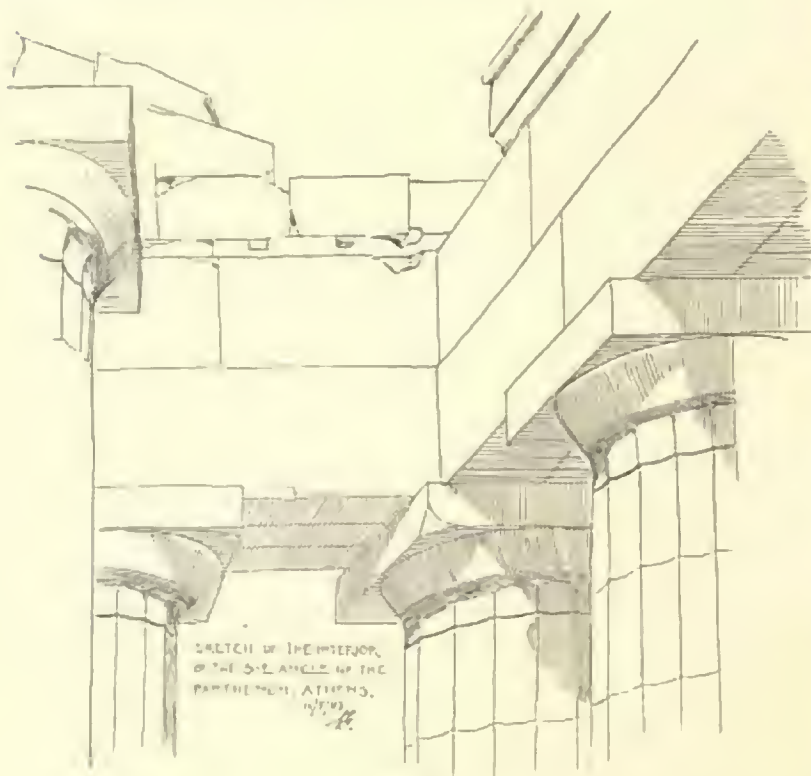


FIG. 9.

of the temple, the antefixæ along the upper edge of the horizontal cornice on the flanks, and the acroteria on the top of the pediments.

Sculpture was, however, the principal enrichment of the Parthenon, and this was all executed under the direct superintendence of Pheidias, the greatest of the Greek sculptors. Pheidias is sometimes credited with the responsibility of directing the whole building; but, considering everything, there cannot be said to be any evidence of a sculptor's hand in the design of the structure, which is purely the work of an architect, while there is so much sculpture about the building that Pheidias would not have been able personally to execute all of it. His masterpiece was the great statue of Athena Parthenos, made of gold and ivory, which was placed in the Hecatompedon in 438 B.C. Unfortunately this statue is entirely lost, but rude copies of it exist on a small scale, as, for instance, the Varvakeion statuette in the National Museum at Athens, a cast of which is in the British Museum. The finest sculpture on the build-

ing was placed in the pediments, and here it was quite in the round. The metopæ were partly in high relief and partly in the round. These were on the outside of the temple, between the triglyphs. There were ninety-two of them, and all were of different design. The Panathenaic frieze was a band of sculpture in low relief, having a total length of 522 feet 10 inches. In height it is nearly 3 feet 4 inches, and it inclines forward slightly at the top, the relief of the sculpture being greater at the top than the bottom. It is placed in the only position in which it could be in order to have it continuous round the cellæ of the temple. It was entirely in the shadow cast by the entablature of the colonnade, and was therefore wholly lit by reflected light. By studying the effect of reflected light on casts of parts of the frieze it is possible for the student to appreciate the beauty of its illumination. How soft the shadows would be compared with their hardness and darkness had the direct light of the sun played on the sculpture! Further there were no shadows from columns thrown across it, as would be the case if it had been placed lower down. It is to be remembered that parts of the figures in the sculptured band were of bronze, and that colour was largely used for the sake of heightening the effect. Then Pheidias knew where the frieze was to be placed, with all the often-stated disadvantages of its position, and his intimate knowledge of these matters must have influenced him both in the design of the whole frieze and in its details.

Not much need be stated regarding the later history of the Parthenon. In the sixth century A.D. it was converted into a Christian church, dedicated to the Divine Wisdom (Santa Sophia). The plan internally was basilican with three aisles, and a semicircular apse was then made at the east end, the entrance being at the west. The Christians put a vault over the church proper, similar to the one which may still be seen over the Theseion at Athens. The Baldachino was supported upon four Corinthian columns. It was a Latin church from 1206 to 1458; an Orthodox Greek church between 1458 and 1460, when it was turned into a mosque by the Turks with little alteration from the form given to it by the Christians. During the siege of Athens by the Venetians in 1687, there was a powder magazine in the building which, being struck by a shell, exploded and destroyed the entire central part of the building. In 1688 the Turks again became masters of the city, and they erected a small mosque within the building, which was removed in 1835. The edifice then suffered from neglect and want of repair, the sculptures especially decaying or being destroyed, till about 1803 Lord Elgin removed those now known as the Elgin Marbles which are in the British Museum. After the Greek National Revival, Athens in 1822 came into the hands of the Greeks, who now take zealous care of the Parthenon and other ancient buildings in Athens.

Architectural design is the expression of the thought of man, and of this no finer example exists than the Parthenon. The construction of this great masterpiece, with all its refinements, could only have been accomplished by one having technical skill of the highest order. It is remarkable that these two qualities—the ability to design and to execute—are never found in a fully developed state in one man. Here, in the Parthenon, there is the united effort of the architect Ictinus and his craftsmen—perhaps with Callicrates at their head—and they have here produced the one edifice undoubtedly (as far as our knowledge extends) the nearest to perfection, in every sense of the word, of all the buildings ever erected. And just as architect and craftsmen worked together as one individual on the Parthenon, so the architects and craftsmen of the present time ought to work in order to perfectly design and execute the very complex buildings which are required in our day.

## II.—THE INFLUENCE OF THE PARTHENON ON THE ARCHITECTURE OF THE CLASSIC REVIVAL.

From Ancient Athens it is not difficult to turn our thoughts to Edinburgh, which has been aptly termed the "Modern Athens," for, as has been often pointed out, there are marked resemblances between Athens and Edinburgh. Leith is the Piræus of Edinburgh, Arthur's Seat is its Mount Lycabettus, and the Castle its Acropolis. The view from the Castle over the City of Edinburgh and its surrounding hills, plain, and firth is remarkably similar to that from the Acropolis at Athens. Again, on the Calton Hill, there is the incomplete National Monument which was designed to be externally an exact facsimile of the Parthenon at Athens, here executed, however, in Craigleith stone, the best of sandstones, instead of Pentelicon marble.

This National Monument was proposed shortly after Waterloo was fought in 1815, to commemorate great Scotsmen. The public mind was at that time attracted to Greek architecture through the Greek revival in architecture, which was partly originated by the

publication of Stuart and Revett's *Antiquities of Athens*, and by other works of a similar nature. In fact, Greek architecture was then the style of the day. Everything was right that was in the Greek style, and it was applied to churches, town halls, houses, prisons, &c. Hence the selection of the Parthenon at Athens as the model after which the Scottish National Monument on the Calton Hill was to be built. The plans

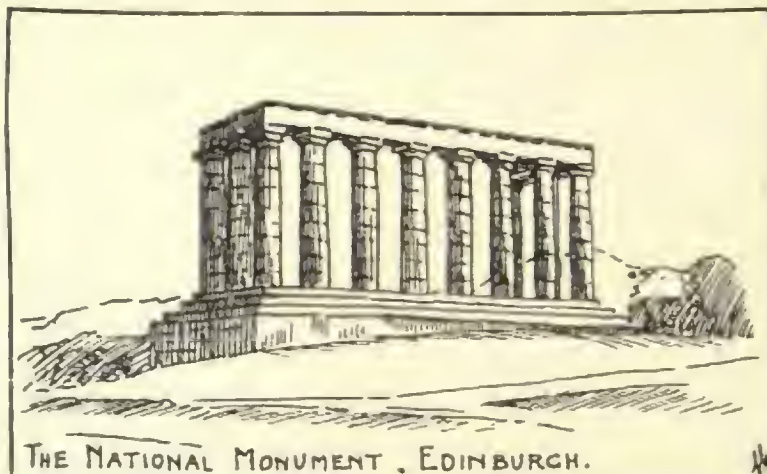


FIG. 10.

were prepared by Professor C. R. Cockerell, R.A., and the work was to be executed under the superintendence of W. H. Playfair, of Edinburgh, both of whom were very able architects. The size of the edifice and every detail externally were to be the same as the Parthenon, and it is to be regretted that the scheme fell through for want of money. The foundation-stone was laid on the 27th August 1822, but only the foundations and the twelve great columns, with the architrave above them, were erected when the building was stopped. The steps of the stylobate of the portion built are not curved lengthwise, as were those of the ancient Parthenon, for this refinement had not been observed at that date; besides, as such curvature would enormously increase the cost of its erection, it could be omitted. Were this National Monument to be completed it would be a beautiful building, just because the original is so. Certainly it admirably suits its position on the top of the Calton Hill, at the east end of Princes Street, and it is to be hoped that some day it will be completed. Of course, if a Scottish National Monument were to be started now, there would be no such copying of an ancient building, no matter how beautiful it might be. Architecture is too truly a living art at the present time to allow of such a thing being done; but when a building has been begun,



FIG. 11.—EXTERIOR OF THE WALHALLA, REGENSBURG.



FIG. 12.—INTERIOR OF THE WALHALLA, REGENSBURG.

its exterior should be completed according to the original plans. As regards the interior, its arrangement will depend entirely upon the purpose to which the building is devoted, and the author would suggest that the Corporation of the City of Edinburgh, to whom it belongs, might complete it as a city museum in which to house the many treasures of the Scottish capital.

Throughout the whole of Great Britain reproductions of the Order of the Parthenon, as porticoes or other adjuncts to buildings, were erected under the influence of the Greek architectural revival during the first half of the nineteenth century. One excellent instance of its application is the portico of the Justiciary Buildings in Jail Square, Glasgow.

The Parthenon Order was similarly used all over the continent of Europe, one excellent example of the complete reproduction of the exterior of the Parthenon being the Walhalla, near Regensburg (Ratisbon), which was built as a German National Monument and Temple of Fame by King Ludwig I. of Bavaria. The foundation-stone of the edifice was laid in 1830, and it was opened in 1842. The site is on the crown of a slope above the Danube, and the monument is approached by ascending a great outer staircase containing 250 marble steps. Its dimensions vary slightly from those of the Parthenon, but practically the Order externally is an exact copy executed in white limestone. The architect was Leo von Klenze, who here produced a magnificent interior, entirely different, however, from that of the ancient Parthenon, of which the exterior was such a close facsimile. Internally the monument consists of one large hall, having on each side two projecting piers which divide its length into three compartments and support massive iron roof-trusses. In each of these three rectangular compartments there are large roof-lights glazed with ground glass, and there is one end window. No timber is used in the structure. The floor and walls are lined with polished marble from Bayreuth and Salzburg, while colour is very freely employed throughout the interior, producing quite a gorgeous effect.

In the United States of America there is one well-known example in the portico of the Custom House at Philadelphia, which is octastyle, and was modelled on the Order of the Parthenon. In scale the building is about four-fifths the size of the Parthenon, and its use is merely to form a façade for the block of offices used by the Collector of Customs and other officials.

By this review of the ancient Parthenon, and of those modern examples in which its Order has been applied as a mere façade decoration, one cannot but observe how unsatisfactory a thing it is to reproduce the design of another time; it may be described indeed as an archaeological proceeding utterly unworthy of the true living art of architecture, which should express the aspirations and necessities of the age when its buildings are erected.

## NOTES ON AMERICAN SCULPTURE, CHIEFLY IN RELATION TO GOTHIC WORK.

By E. W. HUDSON [A.].



HEINS MEMORIAL CHAPEL, CHICAGO. (MR. EDWARD HEINS, SCULPTOR; MESSRS. CHAM, GOODRUE & FERRISS, ARCHITECTS.)

ONE of the chief objects of my visit to the United States was to see what is being done there in the Gothic style. Its use is as certainly increasing in collegiate and ecclesiastical work, as the Romanesque of Richardson is declining in all classes of buildings, the rule being proved by exceptions in a few cases of domestic work. With the majority of public buildings of the last decade steeped in Renaissance, with the financial buildings mostly Grecian, and the commercial "blocks" of every conceivable and no conceivable style, things did not look promising for a result of much interest in Gothic sculpture. But a heaven is working powerfully towards that end.

Naturally, my first visit in New York was to the new Cathedral of St. John, Morningside Park, between 110th and 115th Streets. The building has been making slow progress during fourteen years from a design by Messrs. Heins and La Farge of New York.\* The nave is not yet even begun. The crypt is completed, and the choir over it has reached the level of the eaves east of the crossing, and the Lady (or St. Saviour's) Chapel

and one other of seven to be built round the apse are completed with the exception of the altars and internal decorative mosaic. Contrary to general practice in England with civic and commercial buildings, this great work goes on piecemeal, and the eastern portion thus begun promises to be completed before any other portion is started. For one thing, unusual in church work, some of the statues are already in their niches outside and inside the chapels referred to; some are offered up, while others are being modelled in a temporary studio on the site.

Mr. Gutzon Borglum, the sculptor entrusted with the modelling, kindly gave me particulars of his scheme, and showed me the work in progress both in his temporary and in his permanent studio at East 38th Street, New York.

I said "entrusted with the modelling," for the sculptor was until recently handicapped by the fact that his models had to be sent away to be *mechanically wrought* and finished by machinery, under contract, he exercising a general surveillance, and having to pass or reject the result when complete, according as it reached his standard or not. Hence it is unfair for a passer-by to judge of anything set up until it can be seen finally approved. In no other case has such a method of proceeding been forced upon him. It does not tend to a good understanding between artist and patron. I could but

\* According to the book of published competitive plans, an excellent Byzantine design was chosen, and huge piers were built suited for a wide dome at the crossing. The external walls, however, of the superstructure being executed are in a late free Gothic style, such as in England might be called "Victorian," and suggest entire change in design.

compare it with the way the late Alfred Stevens was working out his contract for the Wellington Monument when I visited his studio years ago in Eton Road, Haverstock Hill. While other critics had looked and condemned the work at St. John's Cathedral, I felt it unfair to do so offhand; I therefore sought out Mr. Borglum, and he gave every facility for understanding his views and his position.



FIG. 1.—STATUE OF ST. SIMON, CATHEDRAL OF ST. JOHN, NEW YORK. (MR. GUTTENBERG, SCULPTOR.)

For a merely nominal sum which cannot be called remuneration Mr. Borglum agreed to make models for all statues required, and with the enthusiasm of a true artist he has manfully stuck to his undertaking for three years, and produced the models from which the figures have been "machine-made." Owing, however, in part to the cutting price at which the Committee let this part of the work, the "manufacturer" has modified the execution to

suit his blocks of stone (and the price), depressing an arm, drawing in a leg, or closing a wing, as economy dictated. The consequence was that after protest to the architect at their being set up the sculptor had no alternative but to disown and condemn much of the finished work, while still continuing to produce the other models according to his undertaking. His protests have, according to his letters to the Press, merely been acknowledged, and his insistence that the work should be done under his own eye on the spot practically resulted in a deadlock. It is hard to believe that in this wealthy city no advantage should have been taken of the artist's desire to give of his best to a great work of the kind.\* Mr. Borglum, moreover, is so jealous of his work that, a controversy having arisen over a model for an angel which critics said was too generously endowed with an outline of femininity, although otherwise beautiful, he settled the matter by breaking it up and consigning it to the rubbish heap.

It would have been wiser, perhaps, if funds were short, to have deferred such accessory features as sculpture and carving to a future period, as we have to do in England. In fact, if it be the case as the architect stated in explaining their non-adoption, that "granite will not in the form of flying buttresses stand the climate," it is less likely that limestone will be more enduring in figure form; and carving and such accessories would have been better kept to the inside.

Frontenac limestone is being used for outside and inside statuary; but even in the latter position the finished figure produced in the same way is not equal to the model, as may be seen by comparison of statuettes in St. Columba's Chapel with the sculptor's models. This must be expected where the artist's conception is entrusted to someone else to fabricate away from the artist's supervision.

The scheme for the sculpture on the outside of the eastern chapels is as follows:—

Central (Our Saviour's) Chapel (*a*, on plan, fig. 8).—In the gable, young Christ seated; S.E. buttress, St. Michael; N.E. buttress, St. Gabriel; under window N. to S., Zacharias, Virgin Mary, St. Simon [fig. 1].

St. Columba's Chapel adjacent (*b*, on plan).—On four buttresses at angles, from N. to S., St. Patrick, St. Andrew, St. George, and St. David. St. Columba (small) in window tracery. All these are in position. Models for the Twelve Apostles, 10 feet high, are in progress for niches on top of

\* Since this was written, Mr. Borglum's persistence has prevailed. The statues and statuettes he disapproved of are being recut under his immediate supervision, and his withdrawal from the work thus prevented. This means that the seventy-five or more small figures in the interior of the Chapels will form one of the largest collections under one roof of figures of apostles, angels, and religious leaders of all ages since the year of our Lord, by one eminent sculptor, and they constitute a work of which sculptor and city may be proud.



ST. AUGUSTINE.



THE VENERABLE BEDE.



WILLIAM OF WYKEHAM.



BISHOP HOOPER.

the choir-buttresses, at the height of about a hundred feet. Eleven are completed.

Four of the statuettes for the interior of the chapels are shown in fig. 2: The Venerable Bede;

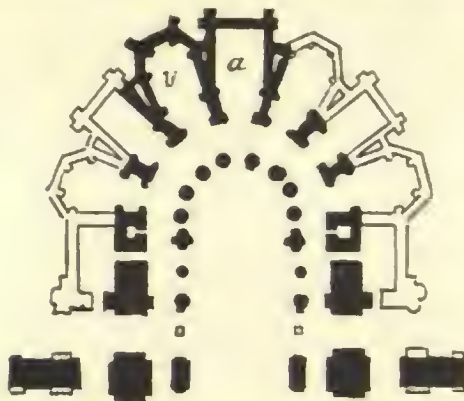


FIG. 2.—CHOIR PLAN, ST. JOHN'S CATHEDRAL, NEW YORK.  
Parts erected shown in black.

St. Augustine; William of Wykeham; Bishop Hooper.

Mr. Borglum's work shows a marked originality, tending even to impressionism, and his determination not to sink his individuality has brought upon him the criticism of contemporaries of a pressing generation working in Gothic, whose sympathies are with the archaeological exactitude of the Revival and who strive to get as near as possible the effects of a past age. On this account Mr. Borglum will probably have to wait awhile for full appreciation, as M. Rodin himself has had to do. He would seem, however, indifferent to praise or to blame, and appears determined to retain his individuality, although it has involved the refusal of commissions for collaborating with architects whose buildings in American cities require as the *summum bonum* exact compliance with conventional precedent.

Mr. Borglum's early years were passed in San Francisco under Virgil Williams and Wm. Keith, while seeking also in painting direct inspiration from Nature. He worked two years in Spain, and in 1893 returned to America. Coming later to England and making his mark by exhibitions, including that held in 1896 at the Hanover Gallery, London, he received important commissions for decorative painting. Sculpture, which he started with as a boy, was taken up again somewhat later. He was made a member of the Société Nationale des Beaux-Arts of Paris at the age of twenty-five.

Amongst his later exhibits the statuette of "An Armed Boer" attracted much attention as a strong piece of work of contemporary interest. In the New Salon at Paris his study of a "Horse bending over a dead Indian" obtained for him membership of that body.

One of Mr. Borglum's important groups in bronze, "The Mares of Diomedes," was purchased

and presented to the Metropolitan Museum of Art, New York, by Mr. Jas. Stillman. Another notable study is the model for a statue of John Smithson, the Englishman who founded the Smithsonian Institution in Washington.

The small sitting figure of John Ruskin at an advanced age is a masterly piece of work, full of dignity and force, though in repose [fig. 4].

"The First Nugget," also a forceful work in bronze, is a portrait of Mr. Mackay, known as the "Silver King." It was made for the College of Mines, Nevada, of which Mr. Mackay was a benefactor. It represents a sturdy miner holding the handle of his pick which rests on the ground; in the other hand is a large nugget which he has just dug out.

Mr. Borglum, as a Californian, is as much at home with the points of a horse as he is with the muscles of the human body, and in the competition for the General Grant Memorial for Washington his exact knowledge gave vigorous and more naturalistic expression by adhering to normal representation, so losing something of the Rodinesque effect, or the weird and almost uncanny impression left by some of Mr. Gilbert Bayes' work.

The study entitled "I have piped unto you and ye have not danced" tells the story of the world's



FIG. 4.—JOHN RUSKIN. (MR. OTTOE BORGLUM, SCULPTOR.)

apathy towards genius until it is called away from earth and it is too late to hear such a voice except in echo. This work is to be executed in marble.



FIG. 1.—SPECIMENS OF MODELS FOR GARGOYLES, PRINCETON UNIVERSITY. (MR. GUTTON BORGHEM, SCULPTOR.)



FIG. 6. —PRINCETON UNIVERSITY: EXAMPLES OF SCULPTURE BY MR. GUTTON BORGLUM



FIG. 7.—MILITARY STATION, WEST POINT (MESSRS. CRAM, GOODRICK, & FERGUSON, ARCHITECTS)  
EXAMPLES OF GROTESQUES MODELLED BY MR. LEO C. LAWRIE.

"A Dream of Motherhood" is one of his most expressive, imaginative works in the nude—a young woman straining forward in anticipatory yearning, with hands pressed upon the bosom. "Night" is a lightly veiled figure, calm and beautiful, but less intense.

Mr. Borglum's model for the General Sheridan statue at Washington has just been selected by the Commission. The general is reining in his horse, and returning a salute by his men. It is to be of heroic size, and to stand on a low pedestal surrounded by a platform at the top of six steps. Marble benches and fountains are to face the statue. The site is in Sheridan Circle, at Massachusetts Avenue and Twenty-third Street.

That Mr. Borglum has not caught the mediæval spirit to the extent of destroying individuality may be seen in the models for Princeton University. Examples are shown in figs. 5 and 6 of some of the gargoyles, pateras, and bosses. In this matter of individuality he differs from Mr. Livingstone Smith, who designed the grotesques for the City of New York College, where mediæval exactitude is so sharply expressed that they might have been modelled in the fifteenth century. (Examples of them are shown in fig. 8.) It is interesting to compare these with the *chimères* of Notre Dame, Paris.

The archaeologist may contend that Mr. Borglum's work is hardly sympathetic with the mediæval spirit; but the cathedral at New York cannot be called mediæval; it does not pretend to be other than a twentieth-century design, with details on Gothic lines.

Opinions will no doubt differ as to the compatibility of Rodinesque statuary with pure Gothic. In the eyes of the Pugin-Hardman school it would, of course, appear unorthodox. But look, e.g., at the *chimères* on Notre Dame, Paris. Are they discordant with the architecture? Yet how much they differ from the regulation figure under its canopy and from the restrictions of geometrical tracery. Mr. DeKay, with broader views, describing Rodin's "Le Penseur" in front of the Pantheon, Paris, says:—"It would suit better the neighbouring church of St. Etienne (du Mont), with its mixture of styles, including Gothic. It belongs with gargoyles and statues under canopies, with pointed arches, and the splendid spring upward of flying-buttresses, and vaulted choir."\*

One trait is noticeable in Mr. Borglum's practice. He shares honours with his assistants at the Cathedral, who, be it noted, are Englishmen—Mr. Price and Mr. Gregory. They work together in the light of day, and their names are added to his own signature on the work wherever done jointly.

Mr. Borglum, as stated above, was first known by his oil paintings, and he is evidently equally at home with landscape, portraiture, and decorative paint-

ing. In the first order of work he had the honour of a command from Queen Victoria for his canvases to be sent for her inspection; in the second order, his work may be seen in the galleries of the wealthy; and in the third, his mural paintings at the Queen's Hotel, Leeds, "The Story of Pan," "The Coining of Guinevere," a surface of 340 square feet, are evidences of his versatile ability. There may also be seen at the Midland Railway Hotel, Manchester, an important series of panels from his brush, "A Midsummer Night's Dream."

One hears on all sides of the entire absence of the commercial element in Mr. Borglum's practice. He gave his services for a year to the work of reorganising the Sculpture Class at the National Academy, New York, appropriating for prizes to the students the \$500 set apart for a teacher's salary. With his hands full of important commissions for American millionaires, he is yet doing all he can to beautify the Metropolitan Church in face of obstacles that might deter any but an enthusiast who enjoyed the friendship of John Ruskin.

Mr. Kirschmeyer is another sculptor who has done good work in Gothic churches in the United States, almost exclusively in wood. Part of the tabernacle work at Hilberd Memorial Chapel, Chicago, is shown at the beginning and end of this article.

Mr. Cram is the author of several works relating to Gothic architecture. He is an enthusiast for the style, like his partner, Mr. Goodhue, with whom it is a pleasure for anyone with lingering regrets over the passing of the Victorian Revival to converse. These architects, with a few others practising in New York, Boston, and elsewhere, form together a potent voice crying in the wilderness.

Mr. Jantsen, a Dutch sculptor, has sympathetic feeling for Gothic, as evinced in the four figures for the reredos at St. James's Church, Philadelphia [fig. 9]. He has also, with equal sympathy and exactitude, taken to Spanish detail for Messrs. Cram, Goodhue, & Ferguson for some Roman Catholic churches in Mexico.

Mr. Domingo Mora sculptured the stonework of the altar and reredos at All Saints', Dorchester, for the same architects.

Mr. Lee O. Lawrie modelled the grotesques for Messrs. Cram, Goodhue, & Ferguson at the Military Station, West Point, of which several are shown in fig. 7. They appropriately represent types of ancient military weapons, &c.

American architects are apparently anxious to impart some humour to work in this commercial epoch. Mr. Livingstone Smith, as mentioned above, designed for Messrs. G. Post & Sons many grotesques, which are executed in white semi-glazed terra-cotta, for the City of New York College, on Harlem Heights, New York. They were modelled by Mr. Grendelis. A few are shown in fig. 8. They represent Egyptian Architecture; Grecian Architecture; Study; a Smith; a Fitter; Carving. Mr.

\* Review of Frederick Lawton's *Life and Work of Rodin* (Scribner's).



FIG. 8.—CITY OF NEW YORK COLLEGE (MUSEUM OF ART, NEW YORK); EXAMPLE OF MODERN ARCHITECTURE; DESIGNED BY MR. LIVINGSTON SMITH.

Smith has shown his ability in quaint mural painting at the University of Pennsylvania in a way that I think the late Win. Burges would have approved, the medium being oil on a dull natural burlap.

Governor Wolcott and other figures for State House, Boston; a statue of Francis Parkman, the historian, and of Senator Hoar, for Worcester, Massachusetts; a quadrige, and large figures of



FIG. 3.—ST. JAMES'S CHURCH, PHILADELPHIA: FIGURES ON REKEDOR. (MR. JANTZEN, SCULPTOR.)

A large volume might be filled with a detailed account of those who are working on Classic and Renaissance lines in America, many having come from overseas to share in that prosperity which a rich country in the course of a wonderful development is enjoying. How many are actually American-born it is impossible to say. Space only admits of reference to a few.

Mr. Philip Martiny, an Alsatian, studied at Strasburg and worked at Rheims. He subsequently did some fifteenth-century Gothic work at Niort, Southern France. Circumstances have kept him chiefly to Renaissance since he came to the United States, and he has done much work for Messrs. McKim, Mead, & White, also for the Government, at the Library of Congress, Washington, where work by many of the leading sculptors in Renaissance is in evidence, among others Messrs. B. A. Pratt, Boyd, Adams, Hartley, Warner, MacMonnies, Bartlett, Flanagan, Ward, and Donohue.

Mr. Daniel C. French has executed groups in front of the New Customs House, New York, representing the four quarters of the globe; groups of "Commerce" and "Jurisprudence," for the Federal Building, Cleveland, Ohio; statues of

"Truth," "Jurisprudence," "Charity," and "Courage," for Minnesota State Capitol; and considerable work at Boston Library.

Mr. St. Gaudens executed two heroic statues of Lincoln, the Shaw Memorial, Boston, statues of General Sherman and Admiral Farragut, New York; figures representing "Portugal" and "Holland" at the Customs House, New York.\*

Mr. E. L. Barrias executed the "Record Monument," United States; Mr. Fred W. MacMonnies, the "Army Monument," Brooklyn; Mr. P. W. Bartlett, "Michael Angelo," Washington Library; Mr. J. Massey Rhinds, a Fountain Group in Mr. Geo. J. Gould's Gardens, Lakewood, and pediments and heroic figures at Shelley Court House, Memphis, Tenn.; Mr. Thos. G. Crawford, "Peri at the Gates of Paradise," in the Corcoran Gallery, Washington; Mr. Thos. J. Batt, statues of Washington, at Boston and Methuen, Massachusetts, Montclair, New Jersey, and of Webster, Central Park, New York.

\* Since this was written, Mr. St. Gaudens has died. He seems to have been considered one of the most talented sculptors of his generation. An exhibition of his works was held at the Metropolitan Art Museum in March last.

Mr. G. Grey Barnard has been working on important groups for the Harrisburg Capitol. His complaints of payments withheld and contracts broken by the architect and committee got into the Press, and formed the subject of a public inquiry. The ground covered by this inquiry included charges of "graft" and corruption over this and other contracts, the extent of which must appear incredible to anyone living outside the United States and not conversant with its daily Press. It is stated that the French Government offered to purchase several of Mr. Barnard's groups, to provide a studio, and to bestow upon him the cross of the Legion of Honour if he would remain in France, but he declined the distinction, and preferred to return to his native country. The sculptor's position seems often less happy than that of his brother of the brush, and financial reward is rarely his only aim. The Metropolitan Art Museum, New York, owns Mr. Barnard's "Two Natures in Man," a truly remarkable production.

The figures representing foreign nations and Europe on the façade of the New Customs House, New York (Mr. Cuss Gilbert, architect), are illustrated in the *Architectural Record*, New York, for July 1906, and are by Messrs. Johannes Gelert, Germany; F. E. Elwell, Rome; F. M. L. Tonetti, Spain and Venice; Aug. Lukerman, Genoa; Chas. Grafty, France; Dan. C. French, Europe; F. W. Ruckstall, Phœnicia.

Mr. Chas. H. Niehaus executed "St. Louis," in front of the Art Building at St. Louis, and the McKinley Monument, Canton, Ohio.

The Jefferson Davis Memorial at Richmond, Va., was recently unveiled. A bronze statue of the great Confederate leader, with the right hand outstretched and the left on a Doric pedestal, stands on a granite block in front of a column seventy feet high. A semicircular colonnade with a pier at either end partly incloses the memorial. Messrs. E. V. Valentine and W. C. Noland collaborated in its production. The ill-fitting frock-coat and trousers and the ugly bow at the neck form the usual drawback to a successful work; the figure, however, commands attention by its *verve* and dignity.

Edward Kemeys, the animal sculptor, who has just died, was a native of Savannah. He went through the privations and hardships of the Civil War in his early manhood. Among his works are "The Still Hunt," in Central Park, New York; "The Wolves," Fairmont Park, Philadelphia; "The Lions," at the Art Institute, Chicago; "The Prayer for Rain," Champaign, Illinois; "Buffalo and Wolves," exhibited at Paris thirty years ago; and "Panther and Cubs," Metropolitan Museum, New York.

Mr. Solon H. Borglunn is well known for his work in the last-named field of art.

Mr. V. Alfano is modelling groups and figures for important commercial buildings in New York.

This, unfortunately, has to be done against time, the result depending finally on the chisel work. His group of "Riches rewarding Labour and Knowledge" for the City Investment Building, Broadway, New York, is just completed for Mr. F. H. Kimball the architect. In his large study of "Cicero declaiming" one sees evidence of his versatility. The cosmopolitanism of art, too, is shown by his Italian sympathy with and choice of Irish poetry as an inspiration for subjects for his chisel, associating in romance-land Thomas Moore with Alfieri or Tasso in other works.

Commercial combination in the United States obliges many foreigners of ability to take work under "firms" of carvers, decorators, cut-stone workers, &c., as a start; and while a few of them force their way to the front, there are good men who have worked for years earning what by comparison are good wages—"big money," as the term goes—in the "plants" of masons, terra-cotta works, &c.

American sculpture is now represented in Paris by an equestrian statue of Lafayette, in bronze, in the square of the Louvre. It is by Mr. P. W. Bartlett.

Happily the cult of the hideous in sculpture does not seem to have been entered upon. Arnold Böcklin's extraordinarily hideous masks at the Art School, Bâle, are scarcely likely to appeal to travelling Americans and become the fashion on the other side of the Atlantic. They are described by one writer as showing "fresh feeling." So do the horrors at the entry to the two show-places in the Boulevard Montmartre, Paris; but what a demoniacal freshness! They need something more than such "freshness" to recommend them, and perhaps one need not even regret that M. Rodin's figures for "The Gate of Hell" have never been finished. If the vulgar go to see the banal shows at Coney Island, New York, the men who control civic and commercial buildings are generally travelled men who desire to import all that is considered beautiful into the United States if money can do it; they would, however, draw the line at such works as "Le Ciel" and "L'Enfer" of the Paris cellars.

When we look back forty years, to the time when most people in England were ignorant that there were sculptors in America until Hiram Power's work came to London, we must recognise the great advance that has been made in sculpture in the United States, allowing even for the large numbers of talented foreigners who have settled there. It is difficult to distinguish them now from natives, though Mr. Taft's book\* is a help in some cases.

Amateurs, too, have entered the field with credit—as, for instance, Dr. W. Rimmer, a physician, whose "Falling Gladiator" is in Columbia College Library, New York; and still, I believe, living in retirement, the lady who as Miss Vinnie Ream

\* *History of American Sculpture*, 1903.

was until recently the only female entrusted with a commission by the Government—for statues of Lincoln and Farragut in Washington. Want of space, not of appreciation of their work, obliges me to omit reference to other ladies, professional and amateur.

Americans may justly taunt us with the poverty of our sculpture, arising from parsimonious governmental administration, not from want of talented sculptors. It is a shame to us that after forty years the pedestals on the Victoria Embankment should be still bare of statuary. Even the group at the end by Westminster Bridge only came to us as a gift. Are we waiting for some rich American speculator who has made a "corner" in something or other, and become a multi-millionaire by squeezing the community at large, to ease his conscience by paying for statuary for the adornment of the capital of the British Empire?

We in England may well envy the money that is being spent on sculpture and decorative painting by the Government and private patrons in the United States, although it cannot be said that the result at present shows the refinement which cha-

racterises public monuments and statues in France. The spirit, however, is in course of evolution, and as the *New York Press*, speaking of ideals in a practical age, puts it—referring, amongst others, to Mr. Borglum—"Right or wrong, there is a great artistic future in store for American civilisation when men fight with such fidelity to their dream of art and harmony."

It is earnestly to be hoped that the new cathedral for Washington will exemplify the harmony which should exist between the "Mother of the Arts" and her daughters, and that the scheme of art once clearly set forth will not be tampered with by committees and be subject to the predilections of individuals, but will crystallise into a lasting monument of refinement and beauty, aided by a sculptor whose genius is not hampered by temporal anxieties or official indifference and "graft," or disheartened by the setting up of mechanical travesties of his work. Though its surroundings may be of Classic form, one may rejoice in this latest Gothic *chef-d'œuvre* striking a new note in the "City of magnificent distances."



FIG. 10.—HILBERT MEMORIAL CHAPEL CHICAGO. (MR. KIRCHMEYER, SCULPTOR.)



9 CONDUIT STREET, LONDON, W., 26th September 1908.

## CHRONICLE.

### Arrangements for the Session 1908-09.

The arrangements for the evening meetings of the coming Session are almost complete and the programme will shortly be issued. The President, Mr. Ernest George, will deliver the Inaugural Address of the Session on Monday, 2nd November, and the Address to Students on Monday the 1st February. The annual exhibition of drawings submitted for the Prizes and Studentships in the gift of the Institute will open on the 19th January. The Council's Award will be made known on the 18th January and the Presentation will take place on the 1st February. The Sessional Papers so far arranged include the following:—"The Elizabethan House as illustrated by Contemporary Architectural Drawings," by J. Alfred Gotch, F.S.A. [F.]; "Public Abattoirs," by R. Stephen Ayling [F.]; "Technical Institutes," by Sir Aston Webb, R.A. [F.]; "Smoke Abatement," by Sir Wm. B. Richmond, K.C.B., R.A. [H.A.]; "The Architectural Work of the London County Council," by W. E. Riley [F.]; "The Principles of Internal Decoration," by T. R. Spence. The subjects of two other Papers, including one by Mr. John W. Simpson [F.], will be announced later. The Presentation of the Royal Gold Medal will take place on the 21st June. On the 2nd July next the Institute will have completed its seventy-fifth year of existence.

### Copyright in Works of Architecture.

The Société Centrale des Architectes français has addressed a letter to Mr. Ernest George as President of the Royal Institute of British Architects inviting support of the Society's proposals in favour of extending to architects equal privileges of copyright with those enjoyed by painters, sculptors, engravers, &c. By Article 4 of the International Convention of Berne (1886) copyright is granted to "works of painting and sculpture;" and the French Society, with a view to giving effect to the resolutions adopted at the International Congresses

of Architects at Madrid (1904), London (1906), and Vienna (1908), are moving for the introduction into the clause of the word "architecture." This question, with other proposed modifications of the articles of the Berne Convention, is among subjects to be discussed at the approaching International Diplomatic Conference at Berlin. The French proposals, which have been drawn up by delegates of the Société Centrale, are set out in full in *L'Architecture* for the 8th and 15th August.

The following letter on the subject has been addressed from the Institute to Sir Edward Grey, Secretary of State for Foreign Affairs:—

*Royal Institute of British Architects, 9 Conduit Street:  
18th August 1908.*

SIR,—With reference to the International Diplomatic Conference to be held in Berlin in October next:

The French Government, upon the representation of the Société Centrale des Architectes français (a copy of whose "Note" we have the honour to enclose for your information), is, we are informed, prepared to consider favourably the insertion of the word "Architecture" in Article 4 of the Berne Convention, after the words "Peinture et Sculpture." This proposal appears to the Royal Institute of British Architects to be reasonable, and we therefore respectfully request that you will honour it with your support, and direct an intimation of our accord with our French colleagues to be conveyed to the British representatives attending the Conference at Berlin.

The Royal Institute of British Architects ventures to approach you on the subject, not from any selfish desire to benefit thereby, but with a view to advancing the general "entente" between the two countries. Most of the other nations adherent to the Berne Convention are, we are informed, in favour of the proposal; and as *unanimity* is required before any alteration can be made to the text of the Articles, the non-agreement of Great Britain might result in the postponement of the matter for ten years, the period required to elapse before another conference can be held.

We have the honour to be, Sir,

Your most obedient servants,

ERNEST GEORGE,

*President.*

ALEXANDER GRAHAM,

*Hon. Secretary.*

### Books recommended to Architectural Students.

A Joint Committee of the Board of Examiners and the Board of Architectural Education have now completed the revision of the list of books recommended to architectural students as indicating generally the nature and limit of the course of study required for the Institute Examinations. The list is given below, and it will appear also in

the forthcoming KALENDAR in the chapter relating to the Examinations:—

## GENERAL.

- Atkinson, T. D.: English Architecture. 1904.  
 Belcher, J.: Essentials in Architecture. 1907.  
 Brown, G. Baldwin: The Fine Arts. 1891.  
 Brown, G. Baldwin: Arts in Early England. 1903.  
 Choisy, A.: Histoire de l'architecture. 1899.  
 Choisy, A.: L'art de bâtir chez les Egyptiens. 1904.  
 Cummings, C. A.: History of Architecture in Italy, from the Time of Constantine to the Dawn of the Renaissance. 1901.  
 Fergusson, J.: History of Architecture of all Countries. 1893.  
 Gwilt, J.: Encyclopedia of Architecture. 1888.  
 Simpson, F. M.: A History of Architectural Development. 1905.

## CLASSIC.

- Anderson, W. J., and Spiers, R. Phené: Architecture of Greece and Rome. 1908.  
 Chambers, Sir W.: Civil Architecture. 1826.  
 Cockerell, C. R.: Temples of Jupiter Panhellenius at Ægina; and of Apollo Epicurius at Bassæ. 1860.  
 d'Espouy, H.: Fragments d'Architecture antique. 1890.  
 Gardner, P.: Grammar of Greek Art.  
 Gibbs, J.: Rules for Drawing the Several Parts of Architecture. 1782.  
 Middleton, J. H.: Remains of Ancient Rome. 1892.  
 Normand, C. J. P.: The Orders of Architecture. 1829.  
 Pentase, F. C.: Principles of Athenian Architecture. 1851.  
 Spiers, R. P.: The Orders of Architecture. 1890.  
 Stuart, J., and Revett, N.: Antiquities of Athens. 1762.  
 Taylor, J. L., and Cressy, E.: Antiquities of Rome. 1821-22.  
 Gwilt's Translation of Vitruvius. 1826.  
 Watt, J. C.: Examples of Greek and Pompeian Decorative Work. 1897.

## BYZANTINE.

- Choisy, A.: L'art de bâtir chez les Byzantins. 1883.  
 Lethaby, W. R., and Swainson, H.: Church of Sancta Sophia, Constantinople. 1894.  
 Olgaria, F.: Basilica di San Marco. 1881-89.  
 Salzenburg, W.: Alt Christliche Baudenkmale von Constantinopel. 1854.  
 Schultz, R. W., and Barnsley, S. H.: Church of St. Luke of Stride, &c. 1901.

## MEDIÆVAL.

- Atkinson, T. D.: A Glossary of English Architecture. 1906.  
 Bilson, J.: The Beginnings of Gothic Architecture. S.P. 1899.  
 Bond, F.: Gothic Architecture in England. 1906.  
 Bowman, H., and Crowther, J. S.: Churches of the Middle Ages. 1845-63.  
 Brandon, R. and J. A.: Analysis of Gothic Architecture.  
 Britton, J.: Cathedral Antiquities. 1814-35.  
 Collings, J. K.: Details of Gothic Architecture. 1852-56.  
 Collings, J. K.: Gothic Ornaments. 1849-50.  
 Corroyer, C.: L'Architecture gothique. 1891.  
 Delhous, F. T., and Johnson, E. R.: Analyses of Ancient Domestic Architecture in Great Britain. 1861-3.  
 Dehio, G., and Von Besold, G.: Kirchliche Baukunst des Abendlandes. 1884-99.  
 Enlart, C.: Manuel d'archéologie française. 1902-04.  
 Lethaby, W. R.: Mediæval Art. 1904.  
 Parker, J. H.: Glossary of Terms used in Architecture. 1866.  
 Prior, E. E.: Gothic Art in England. 1900.  
 Pugin, A.: Examples of Gothic Architecture. 1838.  
 Revail, H.: Architecture romane du Midi de la France. 1864-1873.  
 Rupprich-Robert, V. M. C.: L'architecture normande aux XI<sup>e</sup> et XII<sup>e</sup> siècles. 1884-89.  
 Scott, G. G., jun.: Essay on the History of English Church Architecture. 1881.  
 Sharpe, E.: Architectural Parallels. 1848.  
 Sharpe, E.: The Moldings of the Six Periods of Gothic Architecture. 1871.  
 Street, G. E.: Brick and Marble of the Middle Ages in Italy. 1855.  
 Street, G. E.: Gothic Architecture in Spain. 1855.  
 Viollet-le-Duc, E. E.: Dictionnaire raisonné de l'Architecture française. 1854-69.  
 Willis, R.: Vaults of the Middle Ages. S.P. 1842.

## RENAISSANCE.

- Adams, R. and J.: Works in Architecture. 1778-79.  
 Belcher, J., and Macartney, M.: Later Renaissance Architecture in England. 1898-99.  
 Berty, A.: La Renaissance monumentale en France. 1864.  
 Birch, G. H.: London Churches in the Seventeenth and Eighteenth Centuries. 1896.  
 Blomfield, R.: Renaissance in England 1500-1800. 1897.  
 Campbell, C.: Vitruvius Britannicus; with Supplement by Wolfe and Gandon. 1717.  
 Cicognara, L.: Fabbriche e i monumenti cospicui de Venezia. 1838-40.  
 d'Espouy, H.: Fragments d'Architecture de la Renaissance.  
 Geymüller, H. von: Baukunst der Renaissance in Frankreich.  
 Gough, J. A.: Architecture of the Renaissance in England. 1804.  
 Kent, W.: Designs of Inigo Jones. 1835.  
 Letarouilly, P.: Édifices de Rome moderne. 1840-60.  
 Palastre, L.: Renaissance en France. 1870.  
 Raschdorff, J. C.: Palast-Architektur: Toscana. 1888.  
 Raschdorff, O.: Palast-Architektur: Venedig. 1886.  
 Reinhardt, R.: Palast-Architektur: Genua. 1886.  
 Sauvageot, C.: Palais, Châteaux, Hôtels et Maisons de France. 1867.  
 Triggs, H. J., and Tanner, H.: Works of Inigo Jones. 1901.

## GEOMETRY.

- Burns, W. S.: Geometrical Drawing. 1864.  
 Davidson, E. A.: Practical Perspective. 1886.  
 McGroddwin, H.: Architectural Shades and Shadows. 1904.  
 Spanton, J. H.: Science and Art Drawing. 1895.

## MATERIALS. THEIR NATURE AND APPLICATION.

- Butler, D. B.: Portland Cement: its manufacture, testing, and use. 1829.  
 Ellis, G.: Modern Practical Carpentry. 1906.  
 Ellis, G.: Modern Practical Joinery. 1902.  
 Johnson, J. B.: Materials of Construction. 1901.  
 Newland, J.: Carpenters' and Joiners' Assistant. 1869.  
 Purchase, W. R.: Practical Masonry. 1904.  
 Rivington's Notes on Building Construction. Vol. III.

## HYGIENE, SANITARY SCIENCE, HEATING, &amp;c.

- Dukes, Clement: School Hygiene.  
 Hood, C.: Warming by Hot Water. 1897.  
 Jones, W.: Heating by Hot Water, &c. 1904.  
 Knight's Annotated Model By-laws. 1905.  
 Maxwell, W. H.: Ventilation, Heating, and Lighting. 1907.  
 Miers, H. A., and Crosskey, R.: The Soil in relation to Health. 1893.  
 Model By-laws. L.G.B.  
 Parker, L. C., and Kenwood, H. R.: Practical Hygiene.  
 Reid, G.: Practical Sanitation. 1906.  
 Sutcliffe, G. L.: Sanitary Fittings and Plumbing. 1901.

## SPECIFICATION, &amp;c.

- Dicksee, B.: London Building Acts (for London students). 1906.  
 Dilapidations. (R.L.B.A. publication.) 1903.  
 Hudson, A. A.: Law of Building Contracts. 1895.  
 Leaning, J.: Quantity Surveying. 1904.  
 Leaning, J.: Specifications. 1907.  
 Macey, F. W.: Specification. 1898.  
 Rice, J. T.: How to Estimate. 1902.

## STRENGTH OF MATERIALS AND CONSTRUCTION.

- Adams, H.: Practical Designing. Structural Ironwork. 1894.  
 Adams, H.: Strains in Ironwork. 1888.  
 Berg, L. de C.: Safe Building. 1893.  
 Brickwork Tests. (R.L.B.A. publication.) 1905.  
 Charney, G. F.: Graphic Statics. 1899.  
 Hardy, E.: Graphic Statics. 1904.  
 Middleton, G. A. T.: Stresses and Thrusts. 1904.  
 Reinforced Concrete. (Report of Joint Committee.) 1907.  
 Rivington's Notes on Building Construction, Vol. IV.  
 Scott Moccroff, G. K.: Principles of Structural Design. 1897.  
 Stock, C. H.: Shoring and Underpinning. 1902.  
 Unwin, W. C.: Testing of Materials. 1899.

### The Public and Architecture.

That a London daily should devote space to criticism of London architecture is a circumstance unique enough to merit note in an architectural journal. About a year ago the suggestion was hazarded in these pages that the daily press, by the occasional admission into its columns of competent criticism of architectural work, might be a powerful auxiliary in awakening public interest in the architecture of our cities. *The Times* on two occasions lately has favoured its readers with articles containing some well-informed criticism on architecture, and it has been suggested that space should be found in the JOURNAL for a few extracts. The following is from an article, headed "The New Architecture of London," which appeared in *The Times* of the 9th inst. :—

Every one who uses his eyes in the streets of London must be aware that a remarkable effort is now being made to produce a new kind of street architecture both practically and æsthetically suitable to its conditions. It is an effort often blind and ignorant, usually quite unsystematic, little encouraged by State patronage, and continually hampered by commercial necessities hostile to any kind of art. But its persistence through all these difficulties is all the more significant. Thirty years ago there was scarcely a sign of it. Buildings then, though free for the most part from the troubled and fantastic ugliness of the worst examples of the new movement, were either complacently mean and dull or else mere imitations of good models. Our best architecture then owed what virtue it possessed to the fact that it was dead, and the greatest praise that could be given to an architect was to call him scholarly. The ambition to be scholarly came in with Renaissance architecture, and, after the reaction from Baroque extravagance, became the chief ambition of Renaissance architects in all countries. Nor did the Gothic revival in England lessen it. The scholarly architects only changed their masters and mistook this change for originality. But mediæval church architecture was an obviously unsuited, both in form and in spirit, to modern shops and clubs and hotels and Government offices that the Gothic revival never made much way in the streets of London. Its greatest success was the Houses of Parliament, which have a pictorial rather than an architectural beauty, and impress the imagination so long as it does not trouble itself about their uses. The true problem of architecture is to express the uses of a building in terms of beauty; and an original architecture is likely to arise only when the architect cannot get away from this problem, when use dictates his design and his employers will not be content with it unless he makes it beautiful.

Speaking of the desire for beauty in the public, the writer says :—

This desire scarcely existed at all fifty years ago; but now it does exist, and it is growing stronger. Many persons of culture will question this, or will say that the new desire for beauty has very unfortunate results. So it has, as we might expect in a people that has lost all traditions of beauty, and in conditions that are most unfavourable to its production. But the ugliness produced by that new desire is different in character from the old ugliness produced by mere indifference, and incomparably more hopeful. This profusion of ornament that we see everywhere on our new buildings, these rash experiments in style, this incessant search for new material, however extravagant or absurd their results may be, are all signs

that the great mass of men are no longer content with the bald ugliness or scholarly dullness of the past. We must remember that the desire for beauty is a natural instinct. For a time circumstances all conspired to suppress it; but the suppression could not be permanent. Now it is struggling again with circumstances; and its first struggles must needs be blind and ineffective. But they are not therefore to be despised any more than the first struggles for freedom of a people long oppressed. If we consider for a moment, we must see that the revival of the arts, and particularly of architecture, the mother of them all, cannot come about through the good taste of a few connoisseurs. There must be a popular instinctive desire for it, and that desire, by reason of its very universality and natural growth, cannot be governed by the good taste of connoisseurs. We must not compare its first fruits with any of the great popular art of the past, for that was always the result of a desire for beauty of long standing, and favoured rather than suppressed by circumstances. Nor must we compare them with the first efforts of primitive art; for they were preserved from extravagance by the artists' want of skill, by their lack of mechanical power, and by the absence of bad models. We have enormous mechanical power, considerable technical skill, bad models everywhere, and very difficult conditions to deal with. The result is that our architecture is in a state of anarchy. Old principles will not apply and new ones have not been established; but this very anarchy promises more than the mechanical uniformity that would certainly exist if there were no popular desire for beauty. It would be easy now to devise standard patterns for shops and flats, and hotels, and theatres, and restaurants, which could be readily adapted to particular circumstances, and improved now and then in detail, just like standard patterns of machines. They would be cheaper and more convenient than the innumerable experiments that are actually made; and, if there were no desire for anything but cheapness and convenience, they would certainly exist. They do not exist, because there is a powerful revolt against the standardising of buildings; and that can only be the result of a new desire for beauty, which, if it persists, is sure to produce some new kind of beauty.

It is natural that we should be taken unawares, astonished, and even shocked, by the first uncouth products of this new desire. The arts have so long lingered under the protection of connoisseurs that we have not even asked ourselves what would be likely to happen if they escaped from that protection. Now architecture has escaped and is running wild, running into a thousand follies in its new-found freedom, like the French in the Revolution. These follies are inevitable; but persons of culture need not be horrified by them and despair of the issue, like the *émigrés* of the Revolution. It is a common fault of connoisseurs to despond over the present state of the arts, and often they infect artists with their own despondency. But, luckily, there are many signs that our best architects are not despondent or scandalised. Their work also is inspired by the new desire; they do not stand aloof from it in mere scholarly pedantry, but do their best to control and enlighten it. Besides all the anarchical buildings of the new London, many are arising which show an attempt to adapt the great principles of the art to the conditions imposed upon them. How difficult that attempt is, how much hampered by materials, by building regulations, by commercial necessities, and by the bad taste of employers, only the architects themselves can know. But they also know that an original architecture can arise only through grappling with all these difficulties, and not through abstract designing that ignores them. Knowing that, and acting upon their knowledge, they have already produced many buildings of considerable actual beauty, and of still more promise for the future of the art.

### The Right Use of Art Museums.

In an article on museums in this month's *Burlington Magazine* the opinion is quoted of a German authority that it would be better for art if there were no museums—better for the student if he were always taken to see the object of art amidst the surroundings for which it was originally created, where he could realise the just proportions the particular work of art held in relation to its purpose. "He should see the statue in its niche on the cathedral wall, the altar-piece in the chapel for which the artist designed it, even the bronze inkstand or the clock in the palace for which such articles of *vertu* were originally made." *The Times* of the 23rd inst. takes this opinion as a text for an article on "The Right Use of Art Museums." Recalling the fact that public museums have had their origin in the private collections of great personages, and expressing the view that the very idea of collections of works of art is vicious, and has done much to deprive our notions of the function of art, the writer continues:—

Public museums are attempts to remedy the public poverty in art, but only by putting the public in the position of the private collector. Though a collection becomes public, it still remains a collection. Works produced for it have all the vices of the collector's art, and the great works of public art which it contains are still divorced from the problems they were meant to solve and the conditions in which they were produced. Thus the public in its museums can have only the collector's pleasure, and is always tempted to take the collector's view of art. The greatest art of all, architecture, cannot be collected, except in fragments that lose most of their significance because they are fragments. No great work of art is produced for a museum; and, when we see great works in a museum, it is only by a deliberate and painful effort that we can bring ourselves to understand the conditions for which they were produced, and so learn the lesson which they are meant to teach us. When we see an altar-piece in the National Gallery, how hard it is for us to imagine the altar it was painted to adorn, and how much harder to feel the religious emotion it was intended to express and communicate. Yet, unless we can do this, we are mere connoisseurs, enjoying art as we might enjoy good wine, with a narrow epicure's pleasure; and there is no reason why public money should be spent to give us that enjoyment. Private collections and museums of art, between them, are responsible for the connoisseur and the connoisseur's view of art which now prevails everywhere. There is no great harm in the connoisseur, but there is also very little good, so far as art is concerned. His enthusiasm raises the prices of old works of art, but does not help to produce new ones. For art made for the connoisseur's demand is sterile and purposeless. He gets his ideas of art from the art of the past, which he is apt to regard only as an instrument of his own pleasure; and from the art of the present he requires only what pleases him in the art of the past.

Touching the lessons which museums are meant to teach, and the pleasure to be derived from the contemplation of the objects they contain, the writer says:—

In the first place, the public must learn, from their own delight in great works of art, that such delight is noble and desirable for all; and they can learn this only by

experiencing a noble delight, and not an idle epicure's pleasure. But a noble delight in great works of art, and a desire that such a delight should be shared by all, can come only to those who feel all the emotions which great works of art were designed to express and communicate; and these emotions are possible only to those who understand the conditions in which great works of art were produced, and the purposes for which they were designed. To revive such an understanding, therefore, is, or should be, the main purpose of our public museums, so that upon that understanding a great art may be established in the future. They are not imperfect and artificial means; but they are the best we can contrive in our present conditions; and it is the duty of those who enjoy them to make what use of them they can. Through the fragments of the Parthenon frieze, through the altar-pieces of Italian churches, through all the beautiful objects of art now preserved in the South Kensington Museum, the past tells us, however obscurely, the secrets of a noble delight which we have almost lost in the present; and it bids us not to be satisfied with our poor modern substitutes for that delight. The art preserved under glass cases warns us that it was not produced to be so preserved, and to be gaped at by holiday crowds, but that it was meant to be used, and enjoyed by the users of it. If we take this warning to heart, we shall see that its beauty expresses or symbolises the enjoyment of its use, and becomes a dead beauty when that use is at an end. But the melancholy charm of this dead beauty should make us determine not to be content with it, but to produce a living beauty of our own. It is not enough that we should have a disgust of the mechanical parodies of art that abound. That is easily acquired. The true purpose of museums is to give us a desire for a spontaneous, noble, and universal art of our own times, and some understanding of the means by which such an art can be produced.

Architecture is the mother of the arts, and the problem of architecture is to express use in terms of beauty. This remains, to some extent, the problem of all the arts while they still keep their connection with architecture. Even painting and sculpture are either controlled by the conditions of decoration imposed upon them by the great, useful art of architecture, or else share the purpose of the buildings which they adorn; and so long as arts share in the purpose of architecture, they have some of the grandeur and simplicity of that purpose. For architecture, while it remains great, is an art, not of individuals, but of a whole society, and expresses the religion or patriotism of that society, not the ideas or passions of individuals. No doubt some of the greatest painting and sculpture of the Renaissance were produced when these arts were beginning to be divorced from architecture; but their greatness was built upon a long tradition that had been established while architecture was still the predominant art and imposed its own purposes upon the other arts. Since architecture has lost its predominance, the other arts have slowly but sorely been losing the grandeur and simplicity of purpose which they got from it. The first great collections of works of art began when the Renaissance was reaching its height, and when architecture was rapidly losing its predominance, and they were at once a symptom and an encouragement of the divorce between the arts. A collector must regard a work of art as an abstract thing, without any practical use or purpose outside itself; and works of art in a collection, even if they were produced for some purpose outside themselves or for some practical use, are divorced from that purpose or use and become mere instruments of pleasure to the collector. . . .

### The Royal Sanitary Institute.

Lectures and Demonstrations on Sanitary Science as applied to Buildings and Public Works have

been arranged for the early months of the Session of the Royal Sanitary Institute at the Parkes Museum, Margaret Street, W. A demonstration on Building Materials and Construction will be given on the 19th October. Mr. H. D. Searles-Wood [F.] is announced to deliver lectures as follows:—Oct. 20, Building Construction; Oct. 22, Sanitary Building Construction and Planning; Soil and Local Physical Conditions; Oct. 23, Sanitary Building Construction (Advanced). Among other Demonstrations to be given are the following:—Oct. 26, on Baths and Lavatories; Oct. 27, on Waste Prevention and Water-Closets; Oct. 28, on Pipe-Joints, &c., and Drain-Testing Appliances; Nov. 5, on House Drainage; Nov. 9, on Water-Supply. On the 19th October Mr. J. Osborne Smith [F.] will lecture on School Buildings—Water-Supply, &c.; and on 27th October on Ventilation, Warming, and Lighting. On the 24th October Mr. J. Osborne Smith will give a Demonstration at a school on the General Planning of Schools and their Sanitary Arrangements and Fittings. Mr. W. C. Tyndale, M.Inst.C.E., lectures on Sanitary Appliances (Oct. 26) and on House Drainage (Oct. 30); Dr. James Kerr on Physical Conditions affecting Health in Schools (Nov. 5 and 6). Various lectures on Hygiene in its bearing on School Life by well-known experts have also been arranged.

#### School of Art Wood-carving.

The School of Art Wood-carving, Exhibition Road, Kensington, has been reopened after the usual summer vacation, and we are requested to state that some of the free studentships maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 10 to 1 and 2 to 5 on five days of the week, and from 10 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. To give the public some security as to the competence of teachers of wood-carving, periodical examinations of students of the school are held, on the results of which certificates of competency are awarded. Forms of application for the free studentships and any further particulars relating to the school may be obtained from the manager.

#### The late L. W. Green [F.].

Mr. Leslie William Green [Associate 1899, Fellow 1907] died on the 31st August in his thirty-fourth year. Mr. Green was educated at Dover College, and served his architectural pupillage in the office of his father, Mr. Arthur Green. He attended lectures in the Arts School at South Kensington, and studied for a year at Paris. After serving two years as assistant in the office of his father he started in independent practice in 1897, his office in later years being at Adelphi House,

Adam Street, Strand. His early commissions included the remodelling of 26 Kensington Palace Gardens, and various alterations and additions to Messrs. Lewis and Allenby's premises in Regent Street. He designed and carried out the shops and residential chambers erected upon the site of Nos. 29-30 St. James's Street and Nos. 26-27 Bury Street. In 1903 he was appointed architect to the Underground Electric Railway Company of London, and he designed and completed for the company more than fifty Tube stations, including the decorative works to station tunnels, platforms, and passages. He also did architectural work for the District Railway Company, designing and carrying out their large electrical transformer station at South Kensington, and supervising other works for them.

### AN ADDITIONAL NOTE ON THE LATE HUGH STANNUS.

By PAUL WATERHOUSE, M.A. Oxon. [F.].

THERE is a suggestive sentence in Mr. Phené Spiers's appreciative Recollections of the late Hugh Stannus\* which makes me wish to add a word or two of friendly homage to what has already been written. "If he had had a chance," says Mr. Spiers, "of winning some important competition he would have made a great name for himself."

I should think that no one who came into contact with Stannus's forcible personality could fail to realise that his was the nature of which artists are made. His looks, his speech, his idiosyncrasies—I use the word in a literal and entirely respectful sense—were all evidences of a character akin to that which finds its issue in vigorous artistic production. I like to record these things. They were signs of a very distinct personality, and are integral bits of the portrait that may well be allowed to stand out in memory. That fine head in the dignified skull-cap, that somewhat stately utterance, and not least of all that unique and scholarly handwriting, with its ingenious system of contractions, were signs, manifestations, of a mind that could think for itself, and could travel on its own course indifferent—genially indifferent—to the commonplace uniformity of the multitudes. If Mr. Stannus spent the longer years of his life, not in producing works of art, but in training artists, it was not, I feel sure, for the lack of the vision, the force, and the unswerving purpose which are the conditions of artistic creation. To come into company with him was to realise that his thoughts were fixed on high ideals and that his mind was, as we say, "made up" on many of those elusive subjects which to some remain for ever undefined.

\* JOURNAL, 29 Aug. p. 588.

I do not know that it lies in my power to add to the facts of Mr. Stannus's biography, but I may perhaps be allowed to supplement the statements already printed in the JOURNAL by recording that he was married in 1872 to Ann, daughter of the late John Anderson, B.A.; that Mrs. Stannus survives him, together with two daughters and a son (Dr. Hugh S. Stannus); and that, besides his membership of the architectural and artistic societies already referred to, Mr. Stannus belonged to the Hellenic and Japan Societies, to the St. Paul's Ecclesiological Society, to the Society of Arts and Crafts, and to that for the Preservation of Ancient Buildings.

On one occasion, when I had an appointment to meet him at the Institute on a subject of overwhelming dullness, it happened that I was on my way to Covent Garden, and I am afraid that we talked more of Wagner than of the matter on which we met as a sub-committee of two. Music was his chief recreation, and in his leisure he sometimes even composed. He was also a writer of verse, and once, I believe, he was responsible for the music and libretto of an operetta performed by the members of the Architectural Association.

There is no doubt that, having once devoted his energies to lecturing, he brought to bear on his career as a lecturer a singular combination of effective qualities. However evasive the nature of art may be, there was to be nothing vague about his methods of exposition. Scientific analysis, laborious induction, the formulation of law from individual facts—these were the processes of his work as a teacher; and with them was coupled a special lucidity of exposition and a wealth of illustration. One of the most striking proofs of his energy in the gathering of evidence is to be seen in his unique collection of photographs and lantern slides. Most of these were, I believe, of his own production, for he was an excellent amateur photographer, and had visited in person the scenes of the world's greatest architecture. Travel was in his eyes a great duty in the student of art. He advocated it warmly; and his knowledge of foreign languages, especially of Italian, served not only to bring his own mind into the company of Dante and Petrarch, but also to make him a valuable guide to those who accompanied his searches among Italian art on Italian soil.

Certainly his was a rare equipment for the enjoyment of all that is fairest among the products of human thought and human skill; and so far was he from keeping that enjoyment to himself, that there must be full many among his survivors who originally owed to his encouragement the awakening of that perception

"which seeing sees, and hearing understands."

## REVIEWS.

### CONCRETE.

*Concrete: Its Uses in Building, from Foundations to Finish. By Thomas Potter. Third Edition, revised and enlarged. 8s. Lond. 1908. Price 7s. 6d. [D. T. Batsford, 94 High Holborn.]*

This book, the first edition of which appeared in 1877, and the second in 1891, is the work of a practical man who has laboured for many years in concrete work. It has the merits as well as the defects of its class. It is free from the complications of mathematics or theory; it puts the practical ways of dealing with concrete—the results of much experience—in a way which will be readily understood by the builder, the clerk of works, or the architect for whom theory and algebra are things to be avoided. It does not deal primarily or chiefly with reinforced concrete, but rather with ordinary plain concrete, as to which there is much to be learnt.

A considerable part of the book—which is so changed in form, matter, and arrangement as to be more of a new book than a new edition—is devoted to the history of concrete, of monolithic walls and building appliances in connection therewith, and of fire-resisting and cement floors. There is an interesting chapter on aggregates, from which the following remarks on coke-breeze are taken:—

"There is a confusion of ideas and nomenclature with regard to the product arising from the consumption of coal. Here we call it ashes, cinders, clinker, and breeze.

"The siftings from ash-holes is used for burning bricks in clamps, and is also called 'breeze'; ashes is the general name given to the residue of almost every kind of fuel besides coals; cinders is generally associated with the remains of fires in domestic buildings; clinker is the residue of coal which has partially calcined or fused from high temperature; and coke-breeze, sometimes called coke-ashes, is the finer part of the coke from gas retorts, but as it is now customary to re-use the best portions of the coke to assist in heating the retorts, and the remainder that will not pass a half-inch screen, for conservatory boilers and similar objects, the residue is too fine for general purposes. The portion that drops through the bars during the heating of the retorts is called pan-breeze, and being thoroughly burnt is the best for concrete."

There are chapters on the application of concrete to floors, roofs, and pavings, on slab walls and faced concrete walls, on concrete for landed estates, concrete foundations, &c., in which the author embodies the results of his forty years' experience, all of great interest and much of value. He disarms criticism to some extent by telling us that he is aware that the information contained in his pages "does not in some instances fall in with the views of other practitioners." He appears to differ from the advice given by the Royal Institute Committee, but that is sometimes because he applies the rules of the Committee to cases for which they were never meant. For instance, in the chapter on

Concrete Foundations he says that "the recommendation of the R.I.B.A. Committee that concrete should be deposited in layers not exceeding three inches in thickness will not, I think, find favour." Now the Committee's Report deals with reinforced concrete, which in general depends on its high quality and not on its mass for strength as ordinary concrete on foundations does. This remark applies also to the smaller size of the aggregate and the screening out of the sand, which also do not apparently commend themselves to Mr. Potter. Larger sized aggregates and less punning or beating make good enough concrete in mass, but the strength required in pieces subjected to stresses usual in reinforced concrete work could not be obtained without this ramming. Nor could the water-tightness, which is so necessary in some applications, be secured without it.

WILLIAM DUNN [F.]

### SPECIFYING DECORATIVE WORK.

*Specifications for Decorators' Work. A Guide to Architects, Engineers, &c. By Fredk. Scott-Mitchell. No. Lond. 1908. [The Trade Papers Publishing Co., Ltd., 365 Birkbeck Bank Chambers, Holborn, W.C.]*

Every architect who has had to draw up a specification for painting and decorating must feel that a guide to that end is greatly wanted. He may know what the work, when done, should look like, and have gathered some knowledge of the details; but he cannot have such an intimate acquaintance with the processes and the reasons for them as to enable him to draw a specification which will secure good work, nor such as can form the basis for competition without many loopholes for evasion.

Mr. Scott-Mitchell's book should be a great help if carefully read through and discreetly used; for he points out many of the pitfalls common to such documents, and indicates where it is easy to trip in preparing them. It is doubtful, however, whether, in the effort to close all loopholes for error or evasion, he would not produce a specification too cumbrous and too complicated for any but very large works. As in many other branches of building, the real quality of the work will always depend on the competence and the character of the man who undertakes it. Old and pure linseed oil is as essential to good painting as thoroughly seasoned wood is to good joinery, and neither architect nor clerk of works can be quite sure of either beforehand. It is not sufficiently known, however, that if the builder's first two or three coats are executed in a bad quality of oil no purity in the materials of the decorator's subsequent finish, nor any care of his, can make perfect work. It is the first stages of painting which are all-important.

Taking the work in detail as specified in this little book, there are necessarily some items open to question. Thus, in making good to plaster-work there is no mention of "cutting out cracks"; and

in every case defects are to be made good "in Keene's cement," which presents so different a face from plaster that it is, in many places, open to objection. Again, on page 27 and elsewhere we have oil-paint described as to be "made from genuine white lead or zinc oxide, or both." This last alternative, "or both," is not to be encouraged. In mentioning "driers" there is no caution against their excessive use—a practice very injurious to light colours, and to which painters are generally prone. Rape-oil is mentioned among painters' materials without warning. It is a pernicious adulterant of linseed oil, difficult to detect and fatal to good drying. The distinction in the proper use of different qualities of varnish is usefully pointed out (page 74), and should have attention. The injunction never to permit any varnish to be thinned I cannot endorse. There are many cases where a very high gloss is objectionable, and a satisfactory result may be had by thinning a good copal varnish with twice the quantity of best turpentine. Excessive thinning, however, would prevent hard drying.

In comparing the covering power of lead and zinc paints the author gives an advantage of 25 per cent. to the zinc, but without mentioning the great difference in bulk per lb. of the two materials. Curiously, he puts his illustration of the fact in reverse, which alters the percentage.

A chapter is given on painters' charges, as by measurement, &c. In another edition a brief description of the method of measuring, allowing for mouldings, &c., would render this part more complete. In his schedule the author apparently includes the "rubbing down" and preparation; but it would be well to mention that, in old buildings especially, the condition of woodwork, from neglect, &c., varies so much that a provision of day-work for this is commonly necessary in very variable degree.

Mr. Scott-Mitchell very properly gives two years as a reasonable interval after the completion of the building before final decoration. The impatient owner who disregards this advice will find much to regret later—shrunk door panels, discoloured or faded walls, and probably cracks in some ceilings. The little book contains much that will assist the architect, and no less the decorator himself, who, as the writer points out, suffers much from incompetent specifications. Very wisely it stops short with the more ordinary requirements—or nearly so.

When decorations of a more ambitious and more artistic character are in contemplation specifications and even drawings to small scale are apt to be delusive. Artistic quality cannot be specified in writing; and even Mr. Scott-Mitchell's phrase, providing that cornices shall be "picked out in harmonious colours," will not secure that excellent result. The fact is that for a good result in painting and decorating the only safe way is to be sure of the character of the man or firm employed; for

neither the quality of the materials, the skill with which they are used, nor the harmonious treatment of the colouring and ornamentation can be assured by the most ingenious specification nor by the most attractive "coloured sketch."

J. D. CRACE [H.A.].

### ROADS.

*Manual of Road Construction and Maintenance. Compiled at the School of Military Engineering by Major E. M. Paul, R.E., Assoc. Inst. C.E. So. Chatham, 1908. Price 4s. 6d. net. [Royal Engineers' Institute: Agents. W. & J. Mackay & Co., Ltd., Chatham.]*

Major Paul, of the Corps of Royal Engineers, shows in his *Manual of Road Construction and Maintenance* an intimate knowledge of his subject. He has, as he states in the preface, omitted the tables and statistics which may be found in the numerous engineering pocket-books, and are so frequently given in works of this kind, and has wisely confined himself to practical data which appear to be the result of his own experience. The book is divided into four sections, dealing with construction of roads and streets in a country similar to our own; roads constructed in an undeveloped country and for military purposes; maintenance, estimates, and specifications; and, lastly, bridges and provision for the escape of flood water. Several descriptions of cross-fall in roads are given, but in this country a curve from the channel to the centre is invariably adopted, being either a segment of a circle or formed with ordinates. The straight slope is for many reasons undesirable. There is one point which does not appear to have been treated—namely, the question of longitudinal fall in a road laid out in a perfectly level district. This peculiarity frequently happens in England, and one method of getting rid of the water is to slope the channel towards the gullies, keeping the crown of the road level throughout. This, however, causes an excessive cross-fall from the crown towards the gully. If, on the other hand, both crown and channel are kept graded in separate watersheds towards their respective gullies a uniform cross-fall is maintained throughout the road, but the undulating appearance may not be pleasant to look at or travel over. It would be an advantage if Major Paul would treat this subject in some future issue.

A useful comparison is drawn between the "Telford" and the "Macadam" types of road. The usual practice with us is to combine both systems. The specifications are good, and useful both for ordinary and tar macadam roads, while all the modern methods of road-making are dealt with, including Durax, granite-sett paving, wood and asphalt.

There are a few points in this otherwise excellent treatise that modern English experience differs from. In the figure No. 8, which represents a

section of a granite-paved road, the curbs are shown to be played off on the channel side. This is not the practice, and there are many objections to it. The concrete foundation of the road is generally carried also under the curb, and a 3-inch step to the curb is too shallow.

With regard to wood-paving, red gum is mentioned as being an efficient substitute for Jarrah; but users of wood should seriously consider this point in view of recent experience in London. There is an error in fig. 9, which shows a 5-inch by 3-inch plank, 12 feet long, laid longitudinally between the wood-paving and the expansion joint; this is never done, and would be detrimental to the road. One or two courses of wood blocks are laid lengthwise instead. The general practice is against the laying of wood blocks during hot weather, as the subsequent wet causes them to expand excessively; a medium temperature and dry weather are preferable.

The author is more at home in his description of roads made in undeveloped countries, where sides of cliffs are worked out to form a military road, or a roadway is constructed alongside a deep gorge. Such roads as the Georgian military road from Vladikavkaz to Tiflis, 9 miles long, with a gradient of 1 in 20, present difficulties which are ably dealt with in the book, and the construction of a roof-covering to protect a road from a falling avalanche does not fall to the lot of every road-maker.

The figures on maintenance and estimates generally will prove useful to all interested in roads, while the diagrams and plates at the end are invaluable. Altogether the book is one to be recommended.

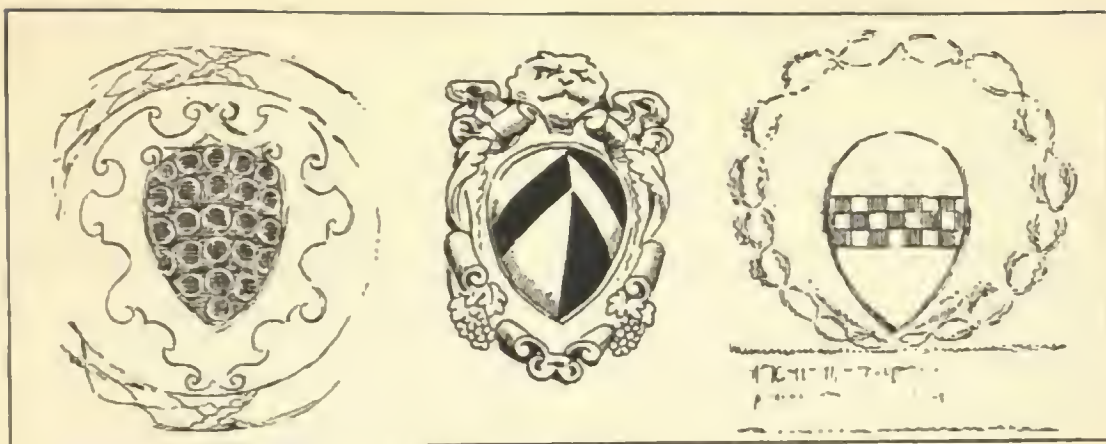
R. J. ANGEL [A.], M.Inst.C.E.

### OLD FLEMISH TOWNS.

*Les Vieilles Villes de Flandre. By A. Robida. Price 12s. net. 11 x 7. [Paris: Librairie Dorbon-Ainé.]*

One can hardly imagine Mr. Batsford, for instance, producing a book like this in paper covers, but when one has passed within them the pleasure of the inspection, even if it be cursory, will obliterate the impression at first suggested. All students of Flemish architecture, whether tourists or architects, will find among the hundred and fifty drawings which illustrate M. Robida's pages a great deal to please and little to criticise. Unequal they may be, perhaps, but as a whole they give a faithful representation of the effect of Flemish buildings, ranging from the solid fortress to the beautiful town hall, from the simple gable to the turrets which have become bizarre. In the text, too, there is plenty of interest and delectation, with its stories of old-world hates and loves, which have left the cities as we see them now.

R. LANGTON COLE [F.].



COATS-OF-ARMS SURVIVING ON THE WALLS OF FAMAGUSTA.

## FAMAGUSTA.

By GEORGE JEFFERY, Curator of Ancient Monuments, Cyprus.

**T**HE fortress of Famagusta, in the island of Cyprus, is one of the most remarkable structures of the kind, and a monument to the colonial enterprise of the sister republics of Genoa and Venice during the later Middle Ages. As the emporium of Levantine trade during the fourteenth century, Famagusta owes its origin to the fall of Acre, the last stronghold of the Crusading kingdom of Jerusalem, in 1291 (18th May); but its still perfectly preserved walls, which display the whole course of early artillery fortification science, belong to the fifteenth and sixteenth centuries and the changed conditions of warfare imposed by the Turkish advance on Europe.

### HISTORY.

In 1191 Cyprus was conquered and definitely occupied by the Latin Crusaders accompanying Richard I., King of England, on the third Crusade. In the following year the island was ceded, apparently as a fief of the English Crown, to Guy de Lusignan, titular King of Jerusalem. At that time the present city of Famagusta, with its surrounding wall, had no existence, and the feudal lordship of the first sovereigns of the Lusignan dynasty centred in the strong castle and royal palace of Nicosia, monuments which have since completely disappeared. The principal port of Cyprus during the thirteenth century was Limassol (known under a variety of names), and thence the Crusading expeditions were fitted out, and there the commerce of the island centred.

During the reigns of—

- |                      |                                    |            |
|----------------------|------------------------------------|------------|
| (1) Guy de Lusignan, | King of Jerusalem, Lord of Cyprus, | 1192-1194; |
| (2) Amaury,          | King of Jerusalem, King of Cyprus, | 1194-1205; |
| (3) Hugh I.,         | King of Cyprus,                    | 1205-1218; |
| (4) Henry I.,        | King of Cyprus, Lord of Jerusalem, | 1218-1253; |
| (5) Hugh II.,        | King of Cyprus, Lord of Jerusalem, | 1253-1267; |
| (6) Hugh III.,       | King of Cyprus and Jerusalem,      | 1267-1284; |
| (7) John I.,         | King of Cyprus and Jerusalem,      | 1284-1285, |

the site of Famagusta was probably occupied by an unwall'd Byzantine village at the side of the lagunes which occur at this point on the coast.\* At some date during the thirteenth

\* According to a description by the pilgrim Willibald of Oldenburg in 1211, the port of Famagusta was in existence in his time, and protected by a castle; but the present

remains appear of a subsequent date, and the church of St. George is certainly in the early fourteenth-century style, or at least belongs to the end of the thirteenth century.

century a castle was built in the Latin style at the entrance of the natural harbour formed by these lagunes, which in those days were probably much deeper and more extensive than at the present time, the coast line having perceptibly risen during the past thousand years. This castle still survives in a curious manner embedded within the later fortifications of the town.

It is recorded that King Hugh III. ordered the destruction of an ancient castle of the Knights Templars at a place still called *Gastria* (*Kastron*), on the northern side of Famagusta Bay, about the year 1280. We may suppose that to replace this fortress as a protection to the eastern shore of the island the present citadel of Famagusta was erected.

Attached to the castle of Famagusta was a very beautiful church, now known as St. George the Latin, perhaps the most beautiful specimen of thirteenth-century ecclesiastical building in the French style remaining in the island, built just across the moat near the original castle gate, on its south side. This church (illustrated in *JOURNAL R.I.B.A.*, 28th July 1906, p. 488) was evidently intended to supply the needs of the local Latin community as well as of the garrison of the castle. It is an example of the not uncommon fortified churches of the period; and, although completely ruined, it still retains evidences of its curious destination and use in the days before the introduction of gunpowder. From its ornamentation it is certainly no earlier than the end of the century. It is partly built out of the remains of an ancient temple.

The foundation of Famagusta as a walled city, much as we see it at the present day, dates from the reign of—

(8) Henry II., King of Jerusalem and Cyprus, 1285-1324.

During this eventful period the fall of Acre and the loss of the famous Crusading kingdom of Jerusalem caused the greatest change in the island. Henry welcomed the refugees from Acre, and established the greater part of them in the new settlement on the eastern coast of the island. The great military orders seem, however, to have settled at Limassol; and the order in which Englishmen naturally take an interest, the Knights of St. Thomas of Acre, was provided with a convent and chapel of St. Nicholas, in Nicosia.

On 18th May 1291 Acre was occupied by the Saracens, and the Christians (such of them as escaped the general massacre) passed over to Cyprus in the course of the same evening and night. The great centre of European commerce in the Levant was thus transferred in a most surprisingly short space of time across the intervening hundred miles of sea, and the new city must have been immediately inaugurated. We have very clear evidence of the rapidity with which the new home of the Levantine merchants and nobles from the Holy Land was built by the statement in the inscription remaining on the south side of the cathedral of St. Nicholas to the effect that in 1311 two-thirds of this most important monument of a mediæval city was already finished (*i.e.* twenty years after the fall of Acre).\*

The most flourishing period in the history of Cyprus (and of Famagusta) was during the reign of—

(9) Hugh IV., King of Jerusalem and Cyprus, 1324-1358.

The large influx of Europeans into the island during the preceding reign had introduced the arts and civilisation of the West. To this period belong the numerous Gothic churches which have been exhaustively studied and described by M. Camille Enlart in *L'Art Gothique en Chypre* (1899). Many accounts survive of the wealth and luxury of the citizens during the early fourteenth century. The extravagant prodigality of certain merchants reminds one of similar stories of the Fuggers of Augsburg in later times; even the wives of these merchants

\* According to the *Historia of Florio Bustron* [1489], a great expenditure of money took place in the year 1310 for the enclosure of the city with a fortified enceinte. To

this period we may perhaps assign the excavation of the great fosse. The "Tower of the Chain," or chain-gate of the port, is mentioned by Macherns in 1368.

dressed in a manner which astonished European visitors unaccustomed to such display in their own less luxurious courts. The presence of so much wealth and luxury naturally necessitated a strong protecting wall round such a city as Famagusta had become, and the magnificent rock-hewn ditch which forms the most remarkable feature of the fortifications doubtless was excavated both as a protection and as a quarry for stone to be used in the new buildings.

For eighty-one years the city of Famagusta was under the rule of the Lusignan dynasty of Cyprus—from its origin as a place of refuge for the exiled Christians of the Holy Land and Syria until 1372. To this period belong the Cathedral of St. Nicholas, the adjacent mediæval bishop's palace, the churches of St. George the Latin, the Carmelites, the Franciscans, the Nestorians, and perhaps St. Anne. Some mediæval shops, formerly the *rez-de-chaussée* of the bishop's palace, and the hardly traceable vestige of the original royal palace in the centre of the town, may be added to the list. But the most important historical monument of the city is perhaps the castle or citadel of the fortress.

To the splendours of the reign of Hugh IV., in whose time most of the finest buildings in Cyprus seem to have been erected (Bella Paese, Cathedrals of Nicosia and Famagusta completed, numerous churches, &c., and above all the city of Famagusta, created the emporium of the East), succeeded the disastrous period of—

(10) Peter I., King of Jerusalem and Cyprus, 1358-1369;

(11) Peter II., King of Jerusalem and Cyprus, 1369-1382.

Abandoned by the European princes, who no longer led their feudal levies and armed pilgrimages or Crusaders on fruitless efforts to recover the Holy Sepulchre and the possessions of the Latin kingdom of Jerusalem from the hands of the Saracens, the Lusignan kings began to find their position untenable. The misfortunes of the Lusignans and their feudal government became the opportunity for the great trading republics of Italy to step in and secure provinces in the Levant under a system approximating to the colonisation of modern days.

In 1372 occurred an untoward incident: Peter II., then King of Cyprus, was crowned King of Jerusalem (according to custom, and as an empty pageant) in the Cathedral of St. Nicholas, in Famagusta. The custom seems to have been for the two Consuls of Genoa and Venice to lead the horse of the King in the procession returning from the ceremony, one on either side. On this occasion a dispute as to precedence between the two republican representatives led to a bloody fray, in which the King, siding with the Venetians, was rash enough to order a general massacre of the Genoese. This very naturally led to a terrible reprisal on the part of the Genoese Republic, which at once dispatched a considerable fleet to avenge the victims. The island was ravaged, Famagusta was definitely occupied, and James de Lusignan, the King's uncle and heir to the throne, was carried off as a hostage for the payment of a heavy indemnity.

From 1372 dates the Genoese occupation of Famagusta and a considerable area of country around. Thereafter the rest of the island, although nominally still under the sway of the Lusignans, was to a great extent tributary either to the Republic of Genoa or to other powers.

According to Sismondi (*Républiques*, iv. p. 55), the Genoese admirals Catani and Fregoso treated the island with consideration, but the cost of the expedition for its subjection had to be borne by the unfortunate islanders. M. Camille Enlart recently contributed an interesting article to the *Archæological Institute Journal* ("Fouilles dans les églises de Famagouste, 1899"), describing the Genoese occupation of the city in connection with certain tombstones in the church of St. Francis. He says: "The Mahone (*Magona* in modern Italian = a foundry or workshop) was a very curious institution. At the present day we are

disposed to consider a war carried on as a financial speculation to be a very modern idea. Nothing is less exact. When the Genoese proceeded to pillage Cyprus and occupy Famagusta in 1373, they had already organised the expedition by means of subscriptions, according to a system then in vogue. The citizens of Genoa armed and equipped their fleet as shareholders in a company, and it was at a *pro rata* on their investments that they received dividends of the booty, and an interest on the perpetual annual tribute exacted and pledged by the possession of Famagusta. At the end of the year, when the treaty was signed, the subscribers, who had invested a capital of 2,560,000 francs in bonds, constituted themselves into a company called 'La Mahone,' with permanent commercial privileges. The administrators of this company were called 'Massari' (stewards).

"In 1403, when Ugolino Prisco di Careto, Massaro di Famagusta, died, the Mahone was divided into two companies, the Old and the New Mahone. A few years later, in 1408, these companies were fused with the Customs administration, under the name of the Office of St. George, which at a later date was known as the Bank of St. George; but in this combination the Mahone maintained its distinct interests by accepting bonds for about six millions. In 1447 the Republic of Genoa, which had been for some years unable to discharge its liabilities towards the Office of St. George, was obliged to abandon the colony of Famagusta to that corporation."

The Genoese occupation extended throughout the reigns of—

- (12) James I., King of Jerusalem, Cyprus, and Armenia, 1382-1398;
- (13) Janus, King of Jerusalem, Cyprus, and Armenia, 1398-1432;
- (14) John II., King of Jerusalem, Cyprus, and Armenia, 1432-1458;
- (15) Charlotte, Queen of Jerusalem, Cyprus, and Armenia, 1458-1460.

But few, if any, monumental records remain of the "Superb" Republic. King Janus seems to have attempted to regain possession of the city for the Lusignan Crown in 1402, for which purpose he obtained artillery (for stone shot) from Venice, but his efforts were in vain. The Genoese maintained their hold of the only important port of Cyprus until the complete collapse of the Lusignan dynasty took place in the disputed succession of Charlotte, the last legitimate representative of the house. Her bastard brother succeeded, with the aid of his suzerain, the Caliph of Egypt, in driving out of the island both the Genoese and the last legitimate kings of Cyprus.\*

From this time dates the imposition of a tribute on the island by the Moslem Governments of Egypt and afterwards of Turkey.

- (16) James II. (Bastard), King of Jerusalem, Cyprus, and Armenia, 1460-1473;
- (17) James III., King of Jerusalem, Cyprus, and Armenia, 1473-1474;
- (18) Catherine Cornaro, Queen of Jerusalem, Cyprus, and Armenia, 1474-1484.

In 1489 (31st May) Catherine Cornaro ceded the kingdom of Cyprus to the Doge Agostino Barbarigo, who died in 1501.

#### *Doges of Venice.*

Leonardo Loredano . . . . .	1501	Francesco Veniero . . . . .	1554
Antonio Grimani . . . . .	1521	Lorenzo de Prioli . . . . .	1556
Andrea Gritti . . . . .	1523	Hieronimo de Prioli . . . . .	1559
Pietro Lando . . . . .	1538	Pietro Loredano . . . . .	1567
Francesco Donato . . . . .	1545	Alvigi Mocenigo . . . . .	1570
Marcantonio Trivisano . . . . .	1553		

\* In 1464 Famagusta was abandoned by the Genoese Government to King James II. and his allies the Soldan of

Egypt and the Venetians, under a treaty by which the Genoese laws and customs were to be continued within the city.

The Venetian administration of Cyprus was confided to a lieutenant-governor, assisted by a council consisting of two "Consiglieri," two "Ricevitori" (receivers-general), and the "Proveditore," or military administrator. In conformity with republican usages, this "Council of Six" replaced the former royal court, with its constable, seneschal, chamberlains, &c.

The first care of the Venetian Government was to place the island in a state of defence as an eastern "bulwark of the Faith," adopting such improvements as were then being introduced into the military art of the vanishing Middle Ages. With this object in view, the hill fortresses of the previous Government were condemned, and in order to prevent their being used as refuges for banditti they were rendered uninhabitable. Each of the fortresses of importance which were preserved seems to have been placed in the hands of a governor, who was also a military engineer. A list of the lieutenant-governors of Cyprus and of the subordinate officials of the Venetian administration has yet to be discovered in the Venetian archives. Two names still survive on the walls of Famagusta, but apparently nowhere else in the island are such traces of its former administrators to be found :

Nicolo Foscari. Prefect, 1492. (Citadel gateway.)

Nicolo Prioli. Prefect, 1496. (Water-gate and west wall.)

It is also on record that the first Venetian governor was General Francesco Prioli; that a certain Carlo Capello, "Viceroy of Cyprus," was buried in the Cathedral of Nicosia; and that Cristoforo del Moro, whose adventures in Cyprus afforded the subject for a sixteenth-century novel, was very probably the original of Shakespeare's "Othello." In 1570 the unfortunate governor of the island, Astorre Baglione, was cruelly beheaded by the Turks in Famagusta, in spite of a treaty of capitulation.\*

In 1571 Cyprus became a province of the Turkish Empire, and has remained such ever since. At first it was classed as a pashalik, the government being entrusted to a Pasha of the highest grade resident in Nicosia, whilst two others of inferior rank were appointed to Paphos and Famagusta. This arrangement seems to have been altered in 1670, when Cyprus was transferred to the government of the Qapudan Pasha (Governor of the Archipelago), who delegated his authority to an official called a Musellim, the local governor of Famagusta being an Agha. In 1839 a *Khatti-Sherif* was published by the Sultan Abdul Medjid still further modifying the administration. The Governor of Cyprus now received the title of "Kaimakam," and was assisted by a council or *divan* of eight, amongst whom were members of the Orthodox, Maronite, and Armenian Churches.†

The Ottoman Sultan Selim II. enjoyed his coveted possession of Cyprus but for a short time. He died in 1574, and was succeeded by—

\* In acquiring the sovereignty of the island the Venetians, doubtless, anticipated that Famagusta would regain the remarkable position as an eastern emporium which it had enjoyed when first built as a successor to Acre. But such an idea was doomed to disappointment. The city never regained any importance at all. The times were changed, and the presence of the Turks in Constantinople accounts for the ruin of Christian commerce in the Black Sea and the Levant.

With the Venetian occupation, Famagusta was placed upon a new footing. No longer a mere stronghold whence the unhappy fortunes of the Lusignan kingdom could be controlled by the tyrannous "Mahone," the city now became the chief port of a regular colonial possession of a commercially minded republic.

In addition to the imposing fortifications, the Venetians also built a suitable palace for the "Proveditore" (military administrator), the ruins of which, with its arched front, still survive in the centre of the city. Opposite this palace were erected the customary twin columns to support the insignia of the Republic of St. Mark, which also survive intact at the present day. They have also left a few traces of more domestic architecture.

Cyprus flourished under the Venetian rule, the oppressive feudalism of the Middle Ages was alleviated, the natural resources of the country were cultivated, but Famagusta as a city never recovered its earlier prosperity—it remained a mere fortress filled with ruins, as it stands at the present day.

† Hackett's *Church of Cyprus*, p. 193.

Amurath III. . . . .	1574	Almed III. . . . .	1703
Mohammed III. . . . .	1595	Abd-ul-Hamid I. . . . .	1773
Ahmed I. . . . .	1603	Mahmad II. . . . .	1808
Ibrahim . . . . .	1640	Abd-ul-Mejid . . . . .	1839
Mohammed IV. . . . .	1648	Abd-ul-Hamid II. . . . .	1876

(The above are Sultans in the direct line only.)

The records of the Turkish occupation of Cyprus are of little interest and difficult to discover. Famagusta remained for three hundred years closed to the Christians of the island, and consequently but little affected by the trifling revolts and disturbances which occurred in other parts of Cyprus during that period. Like many other Levantine fortresses, it seems to have been chiefly used as a prison by the Turks, and many names of unfortunate Europeans confined within the bastions are still visible, scrawled upon their walls.

During the earlier part of the Turkish occupation of Cyprus, Famagusta was very nearly recaptured for Christendom by the fleet of the Grand Duke Ferdinand I. of Tuscany, who laid claim to the crown of Cyprus in virtue of his relationship to the last legitimate sovereign of the Lusignan dynasty, Charlotte. But the expedition failed, partly through adverse weather scattering the ships, and partly through the misconduct of the captains; and instead of attacking Famagusta seriously, it merely degenerated into a piratical raid in the Levantine Sea, in the course of which a sum of more than two million ducats was secured by the capture of a Turkish caravan from Alexandria. All through the seventeenth and eighteenth centuries plots and schemes were proposed for the recapture of the island, but no serious attempt was ever made by any European Power after this futile cruise of the Tuscan fleet in the summer of 1607.\*

Since 1878 the island, though still a part of the Ottoman Empire, has been governed by an English administration (Colonial Office), in accordance with an agreement with the Sultan made under the Treaty of Berlin, July 1878.

*English High Commissioners of Cyprus.*

Sir Garnet J. Wolseley, K.C.B. . . . .	1878	Sir W. J. Sendall, K.C.M.G. . . . .	1892
Colonel R. Biddulph, C.B. . . . .	1879	Sir W. F. Haynes-Smith, K.C.M.G. . . . .	1898
Sir H. E. Bulwer, G.C.M.G. . . . .	1886	Sir C. A. King Harman, K.C.M.G. . . . .	1904

NOTE ON THE LOSS OF CYPRUS IN 1571.

The decline of Venetian supremacy in the Levant has been well compared to a descent by a series of steep steps, each steeper than the preceding. During the sixteenth century the Serene Republic still enjoyed the reputation of being one of the Great Powers of Europe: her alliance was sought by the sovereigns of Christendom, and her alternating friendship or enmity was of the greatest importance in Constantinople. A century later Venice had sunk into a condition of pitiable helplessness, carrying on a mere struggle for existence. With her fall came to an end that brilliant Italian enterprise of the Middle Ages in the Levant, that lion's share in the ancient Eastern Empire secured by "blind old Dandolo" four hundred years before. But for the contemporary collapse of the Ottoman Empire, the "Bulwark of Christendom," as Venice continued to be called, would probably have been swept away by the overwhelming forces of the Turks more than a century before the revolution of modern Europe and the decree of Bonaparte.

The battle of Lepanto marks the period of a complete collapse on the part both of the great Mohammedan Empire and the Christian Republic. After that date Venice was never

\* The last actual claimant to the Crown of Cyprus was Charles Albert, King of Sardinia, Cyprus, and Jerusalem, Duke of Savoy, Genoa, Montferrat, and Piedmont, 1831,

whose gold pieces of 20 francs are still common enough in the monetary circulation of modern Europe.



the Turks with loyalty to their Venetian masters as long as they received any support from them, and even at the present day the modern Greeks rely upon Italian help whenever they venture on a struggle with their hereditary enemies.

The loss of Cyprus in 1571 was one of the most important and earliest stages in the decline of Venetian power—that decline, which afterwards became so rapid, ending in the complete eclipse of the republic in the year 1799. The flourishing colonies planted by the mediæval Italians in the Morea, the Archipelago, and Crete followed, and almost the only evidences of a great commercial colonisation of the Middle Ages now remaining to satisfy the curiosity of a modern generation are the magnificently built fortresses of the period. These old fortresses seem designed to mark historic epochs. The memorial emblems and inscriptions, the dates engraved upon their walls, make them monumental in every sense of the word; they also represent the last phase of what is now the obsolete art of "military architecture."

Contemporary with the development of artillery fortification in the Levant the huge mediæval castles of Europe, with round towers connected by a curtain wall, crowned by the *chemin des ronds*, still served to a certain extent the purposes of defence; but towards the end of the sixteenth century siege guns began to be cast on so formidable a scale as to give rise to what may be considered the first attempts at modern earthwork fortification. In Cyprus we see one of these earliest attempts at a new style in the curious circular fortress of Nicosia. But the defensive ingenuity of the Italian engineer, Ginlio Savorgnano (who is perhaps the earliest known inventor of the earthwork fortress), was quickly overcome by the Turks with their recently improved artillery. Nicosia was captured by assault after a siege of but a few days. In the case of Famagusta the heroic Marcantonio Bragadino was able to maintain his position for more than a year against an overpowering force, abandoned in every sense by his Government and its allies. The strength of his defence may, perhaps, have been partly due to the remarkable rock-hewn ditch which surrounds the city, and also to the fact that, although the Turkish cannon were heavier and better made than formerly, there were no surrounding heights on which to plant the batteries, as had been the case in the easily captured Nicosia. Famagusta was never captured; it surrendered—starved out—under a capitulation which was immediately violated by the Turks with every circumstance of barbarous cruelty.\*

#### DESCRIPTION OF THE FORTIFICATIONS.

As already stated, the citadel at the north-east corner of the city, forming the principal defence of the port, is of early mediæval origin. At the present day it consists of the remains of a square castle, with four square towers at the angles, and of a curious early artillery fortification superimposed by the first Venetian "Prefect," Nicolo Foscari, who has left his name, with the date 1492, upon the marble slab with the winged lion of the republic

\* The following bibliographical notes on Famagusta will be found useful to those interested in the subject:—

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De Simoni, Cav. Cornelio: *Actes gènois de Famagouste (1299)*. Archives de l'Orient Latin, tome ii. 1894.

over the entrance gate. The seaward side of the castle was considerably modified by the erection about the middle of the sixteenth century of the great wall which forms part of the general enceinte of the city.

The shell of the mediæval castle is remarkably intact up to a certain height, but the four towers at the angles were cut down and much mutilated in the process of forming the artillery platform of 1492, and the north-east tower, which undoubtedly existed, and which may have been the most important of all, has practically disappeared. A series of large vaulted chambers on the east side is in a fair state of preservation: the keystones are decorated with the arms of Jerusalem, but the windows and doors have become shapeless holes in the course of clumsy repairs, or are blocked by the later additions on the outer face. On all

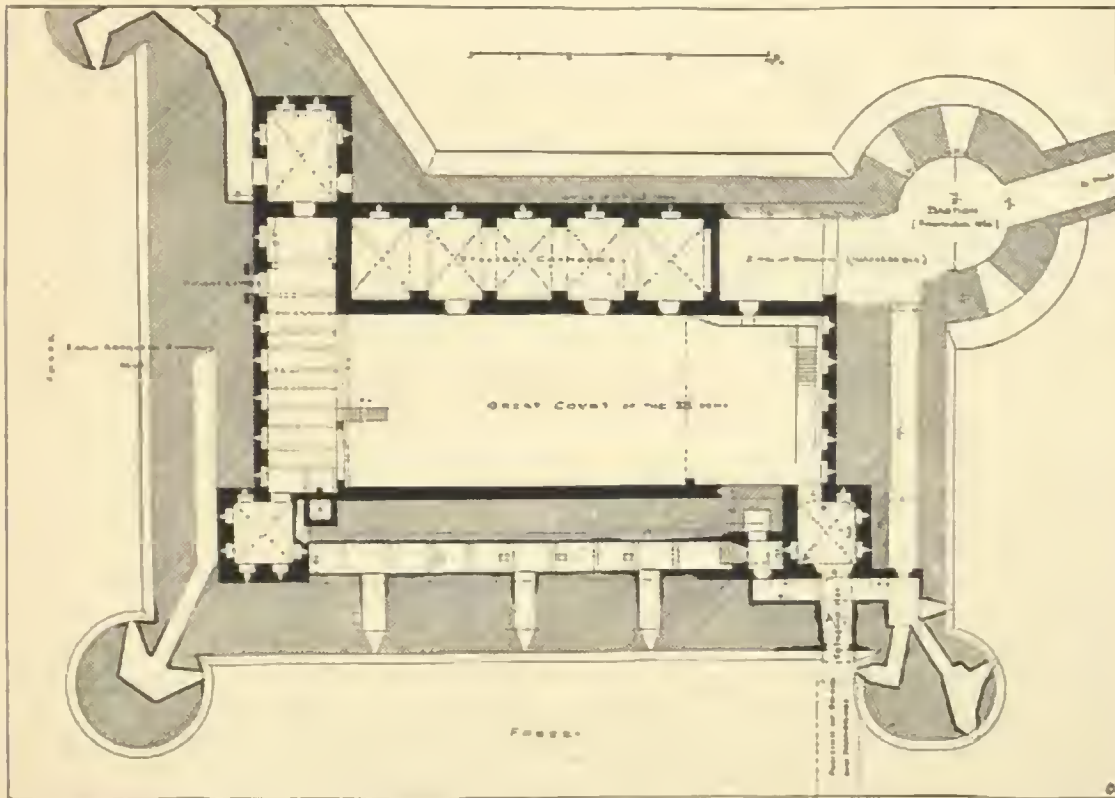


FIG. 2.—PLAN OF THE CITADEL, FAMAGUSTA.

sides of this mediæval shell, and also within the large chambers, the arrow slits of the period are visible. During the Middle Ages this castle was surrounded by a wide expanse of water which completely isolated it; the Venetian additions have reduced this to a mere ditch, which was finally filled up by the English administration a quarter of a century ago. The original entrance to the citadel was on the west side, and not as at present through the south-east tower. Its archway, with porteallis grooves, still survives in a blocked condition.

On the west side of the remaining shell may be observed traces of wood construction which probably represent the former residential portions of the fortress: a staircase led up to them from the centre of the court. These residential arrangements were all cleared away in the formation of the Venetian citadel, and since the year 1492 there has never been any

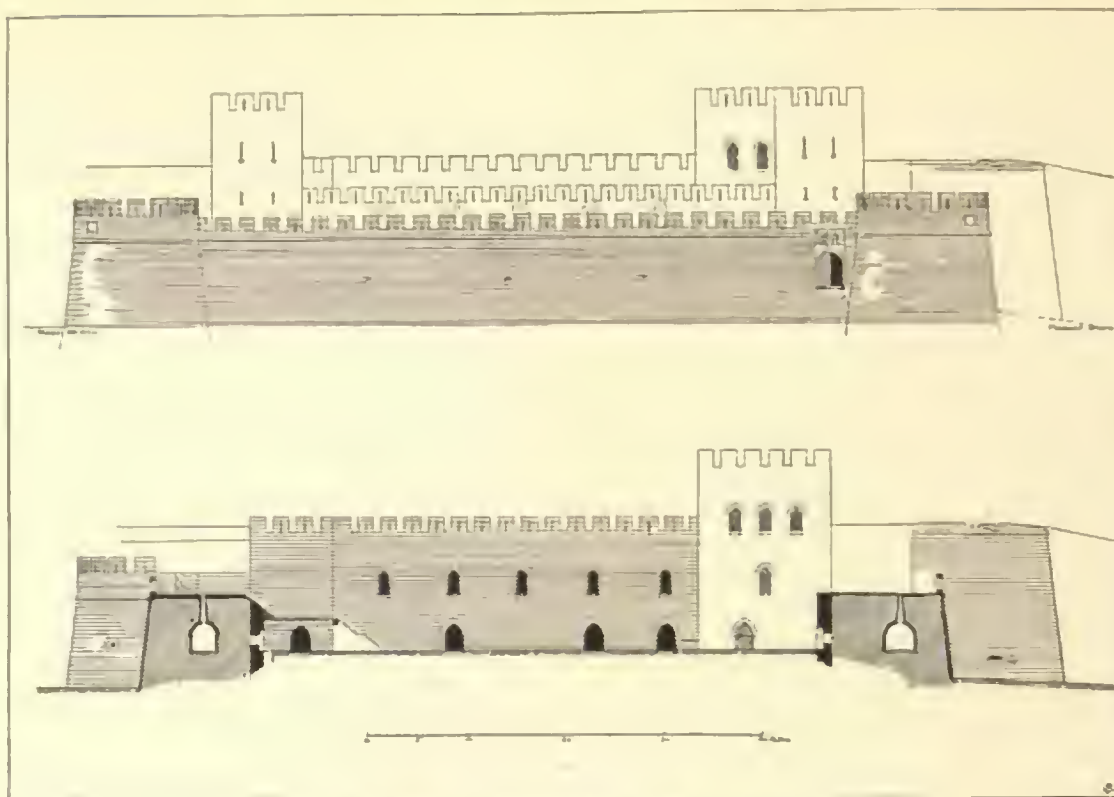


FIG. 2.—ELEVATION AND SECTION OF THE CITADEL, FAMAGUSTA.

accommodation for even a small garrison within its precincts, such as may have occupied it in the times of the Genoese Republic or earlier.\*

In figs. 2 and 3 the plan and elevations of the citadel show the monument as remodelled in 1492, with a conjectural outline of the medieval castle reproduced in accordance with the plan. In the Middle Ages its appearance must doubtless have closely resembled contemporary fortresses of the opposite coast. The details of vaulting and arched embrasures which remain are similar to work at Athlit, Gebail, and Tortosa. The additions made by the Venetians to the fortress have, of course, no resemblance to the Turkish military architecture of Syria—a style with special characteristics of its own which have never been introduced into Europe.†

\* Since the British occupation of Cyprus the citadel of Famagusta has been associated with the famous legend of Othello. Shakespeare does not, however, mention the "castle," although he refers to the fortifications of a "seaport in Cyprus." At the period when *Othello* was written the castle would have been considered of little importance, and, as has been already remarked, the remodelled castle could never have been the residence of anyone of rank or importance. We must, therefore, dismiss any idea of the famous tragedy taking place in the building as we see it at the present day, whatever the probability may have been in the Middle Ages, when its towers and vaulted apartments may possibly have been used for residential purposes.

*Othello*.—Story taken from the seventh tale of the third decade in the "Hecatommithi" of Girahlo Cinthio, a Venetian novelist who wrote about 1580. The story is said to have been derived from the life of Cristoforo Moro,

Luogotenente di Cipro, who returned to Venice without his wife in 1568. Arms of the Moro family of Venice (example in the Doges' Palace: this coat-of-arms has not yet been discovered in Cyprus), on a field argent three mulberries sable between three bends azure.

† Di Cesnola (*Cyprus*, 1877, p. 197) mentions that in 1872 "near the east wall of the fortress are two cascades filled with arms taken from the Venetian garrison. On the handles of some of these rapiers I observed the crests of the owners inlaid in gold, and with the Jerusalem cross. Mr. Hitchcock, who accompanied me on one of my visits to Famagusta, expressed a desire to possess one of these interesting weapons, and I succeeded in obtaining several for him." This unintelligible account perhaps refers to some part of the castle, or possibly to the Diamante tower, which seems to have been used as a store in the same way as it is at present.

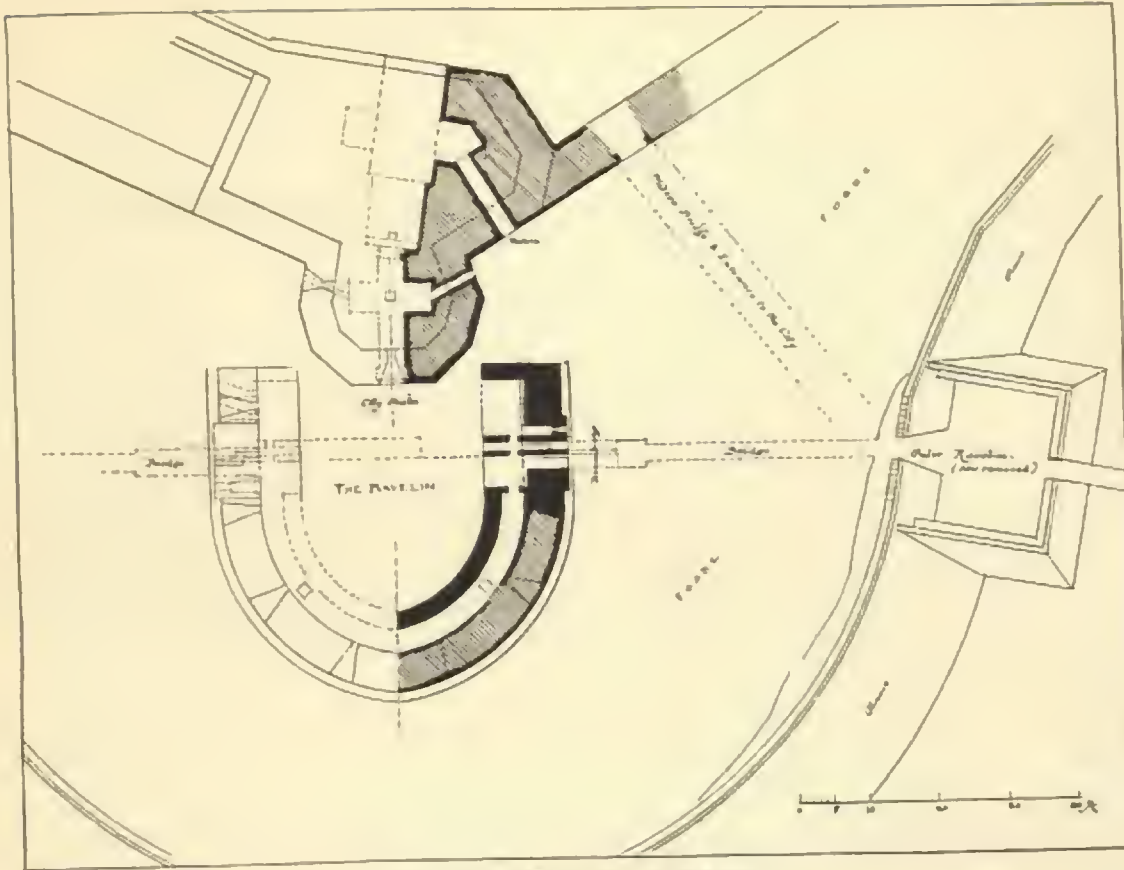


FIG. 4.—PLAN OF THE LAND GATE AND RAVELIN.

The great bastion of the "Limassol" or "Land Gate" [fig. 4] is perhaps the oldest portion of the fortress after the citadel. This immense mass of masonry, which forms a principal landmark seen across the flat country near Famagusta, is very remarkable both in construction and plan. Fronting the town is an immense archway, 30 feet in height [fig. 6], which may be possibly older than the Venetian enceinte of 1492; on either hand within the arch are the faint traces of large square panels of frescoed plaster containing coats-of-arms. According to a local tradition, these are known as the "Genoese" badges. They are now so much defaced that little can be made of them, but at the time of the English occupation a shield charged with a fess chequy,\* and underneath the inscription "SANCTA PATERNA MEMORIA DOMINE," could be deciphered on the northern wall. On the southern side are traces of a strange-looking armorial bearing consisting of six rows or "bars" of black balls touching each other, the fifth row from the bottom on a red ground, the others on a dark blue field.

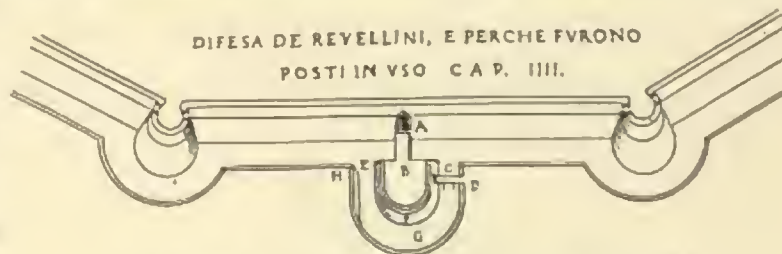


FIG. 5.—PLAN OF A RAVELIN, FROM LOBINI'S "DELLA FORTIFICAZIONE."

\* A precisely similar coat-of-arms occurs on an altar-piece, painted in the Italian style, now in the National

Historic Museum, Athens. See head-piece of present account.

Whatever the original design of this gateway to the city may have been in the Genoese period, the present arrangement has all the appearance of dating from 1492-1496. It is planned on a system of protecting the main entrance to a city with an immense ravelin—a system completely condemned by the end of the sixteenth century. The ravelin was intended, as will be seen from the plan, to have two entrances on its flanks, approached by more or less permanent bridges with drawbridges at the gates, for which the recesses remain. This ravelin was the part of the fortifications most hotly contested during the famous siege of 1571. Completely ruined by the batteries and by mines, very little remains of its original construction at the present time, as the Turks in reconstructing the enceinte have changed the ravelin into a sort of secondary bastion, closing the original gates with masonry, filling the interior with earth,

and erecting two *caponieri* at the sides of the formerly detached outwork. The modern principal entrance to the city now passes across a permanent bridge and through what was in the sixteenth century a gun-chamber for flanking the ravelin [fig. 7].



FIG. 6.—INSIDE THE LIMASSOL BASTION OR LAND GATE.\*

In spite of Turkish alterations in later times the Limassol bastion, with its ravelin, is an interesting survival of the earliest artillery system, and perhaps almost unique, such features being usually removed during the subsequent modifications of ancient fortresses.\*



FIG. 7.—MODERN ENTRANCE TO FAMAGUSTA SHOWING LIMASSOL BASTION AND A CAPONIERE.

The west wall of the city is, fortunately, dated on the marble slab on the Moratto bastion, recording its erection by Nicolo Prioli in 1496. This wall is defended by three very small demilunes or bastions, with a larger one at its northern extremity—the S. Luca bastion. The S. Luca bastion is precisely the same type of construction as the three large demilunes on the southern wall; we may therefore consider them all of the same period. The most singular

\* In Lorini's *Della Fortificazione* (Venice 1609) is a chapter on the use of the ravelin and its defects. "In those times when they used to build the bastions of a round form, they thought the most important thing was to safeguard the entrance of a fortress with an ingeniously contrived ravelin. But this defence has been found in our

times to be not only imperfect but highly dangerous to the garrison. The ditch around the ravelin is difficult to enfilade and becomes a cover for the enemy, and after mining operations the enemy easily occupies the ravelin and captures the entrance of the city." See fig. 5.

thing about these towers is the very limited space within them for working the artillery. This is referred to by the historian Paruta (c. 1590), who speaks of them as of little use, owing to the confined accommodation. In his time they were considered very antiquated [figs. 8 and 9].

The south wall, with its three bastions—Andreuzzi, Ay-Napa, and Camposanto—was the most exposed to the Turkish attack in 1571. Opposite this wall the great earthworks of the besiegers were erected, and the heaviest batteries extended from before the "Land Gate" to the seashore. Judging by its present appearance, we must suppose this wall to have been very much restored by the Turks subsequently to the great siege. At the seaward extremity of this wall is a large round tower, built in a more mediæval fashion as a circular structure, and not as a solid earthwork or casemate. Out of it leads a large vaulted gallery running along the face of the sea wall on the east side of the city. This gallery, recently cleaned and opened out, measures about 100 by 20 feet: it serves partly as a communication between the great round tower and the ancient gateway of the Arsenal, and for a gun-chamber commanding the approach to the Arsenal. The round tower was known as the Arsenal bastion, and being exposed to the fire of the batteries on the seashore, which seems to have been the strongest position occupied by the Turks, it was completely destroyed. The enemy very nearly succeeded in carrying this corner of the city by assault, and in commemoration of their prowess they have rebuilt the bastion and placed a tomb of one of their standard-bearers in the space at the bottom.

Within the south wall, between the "Arsenal" and "Camposanto" bastions, was situated the arsenal of the city. The sea-gateway of this most important of Venetian institutions still survives, as also a few imperfect vestiges of the ancient buildings and the outline of the slips on which the galleys were hauled up for repair. The mass of ruins now covering the ground looks as if they had been blown up with powder intentionally. The gateway for drawing the galleys through and up on to the slips [fig. 10] was probably walled up by the Turks in the course of their repairs to the fortifications after the capture of the city, and it is presumable that the buildings of the Arsenal were destroyed for the purpose of supplying stone for such purposes. This gateway, which has recently been opened out, is of a very curious construction—evidently much older than the greater part of the wall (dated 1520) in which it occurs. In the arch over it are certain openings which suggest defence on the principle of machicoulis.

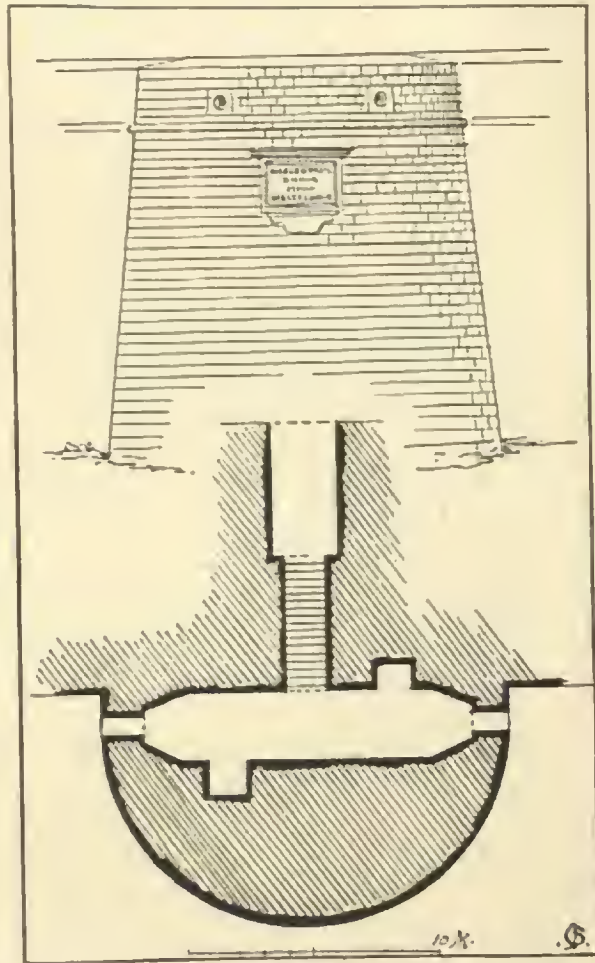


FIG. 8.—THE MORATTO BASTION: PLAN AND ELEVATION.

The immense iron hooks on either side of the gateway for supporting an iron gate or doors still remain [figs. 10 and 11].

The eastern wall of the city, at the southern end of which is the Arsenal Gate, was decorated at two points with the usual Venetian lions of colossal size, but nothing beyond the empty panels for these figures now remains. Beneath the larger of the two panels are the traces of a fresco inscription with the date 1520. In all probability the whole of this side of the

city wall was rebuilt at this period: it shows evidences of great alterations at different times.

About the middle of the eastern wall occurs the round tower of the Water Gate. This is the most elegant and important architectural feature in the fortifications of Famagusta. Fig. 12 shows the gate tower, with its marble doorway, before the alterations to the harbour carried out by the British Administration in 1904. Fig. 13 gives a detailed drawing of this elegantly designed gateway. It is decorated with fragments of coloured marbles (perhaps found at Salamis) used, in the very characteristic manner of Venice, as a background for the finely carved lion which fortunately has survived untouched to the present day. The whole of the lower portion of the design is in local marble, the original iron porteullis still occupies its place, and the circular tower, the interior of which is covered by a large and beautifully constructed dome, is in a very fair state of preservation. But for some injury caused by carts driven through the marble gateway at the time of the modern harbour

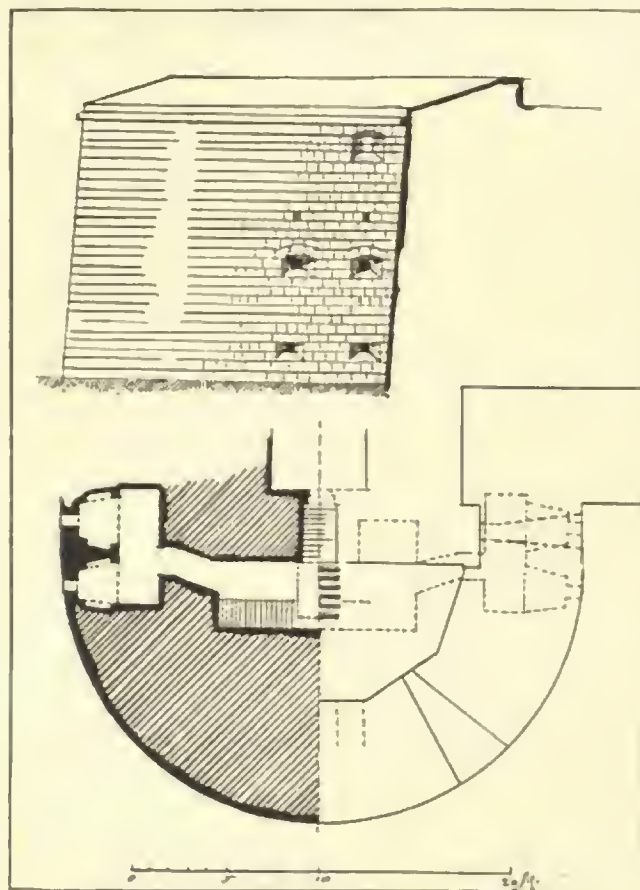


FIG. 9.—PLAN AND SIDE ELEVATION OF THE S. LUCA BASTION.

works this most interesting monument is practically untouched, and it does not appear to have suffered from the bombardment in 1571. In the centre of the design is a tablet containing the inscription:—

NICOLAO PRIOLI  
CYPRI PRÆPECTO  
MCCCCLXXXVI

The round tower, in which is the Water Gate, has battlements with arrow-slits of an antique appearance. It belongs to the style of construction of the second citadel built by Nicolo Foscari in 1482. Prioli was, however, an architect as well as a military engineer, and evidently wished to give his constructions that characteristic Italian elegance which renders

such monuments interesting to the artist as well as to the archæologist. Foscarini's work is of a less ambitious character, and the carved lions which decorate the citadel are of a particularly uncouth and inartistic species. A specimen of this latter kind decorates the corner tower in fig. 14.

The fortresses built by the Republic of St. Mark to defend her possessions in the Levant were primarily designed to fulfil a warlike purpose; such a fact goes without saying; at the same time they were designed as architectural monuments, and, like similar constructions of the period in Europe, they were intended to convey by their proportions and details an impression of power and grandeur which is very appropriate under the circumstances. The most imposing of these immense monuments of the "Italian style" are naturally to be found in Italy, and in some cases they are still well preserved. At Aquila, in the Abruzzi, for instance, is an example, built in 1590, designed with all that Italian facility for adapting the object in view to an artistic expression. The marble entrance, enriched with warlike trophies, approached by a picturesque drawbridge in the midst of the immense flanking bastions, with their sinister-looking embrasures turned on the visitor in a forbidding manner, suggests luxury combined with power. The remains of the great fortification by Michele Sanmichele at Verona have been described by Gwilt as "wonderful in the mode in which Sanmichele combined pure and beautiful architecture with the requisites called for in fortification." In Famagusta we see the same sentiment expressed in the work which bears the signature of Nicolo Prioli in 1496. A marble tablet on the Moratto bastion, on the exactly opposite side of the town from the Sea Gate, also records the memory of Prioli, and displays a similar artistic feeling. The inscription and date are the same as on the Sea Gate [fig. 8].

The northern wall of the city seems to consist of portions of the earliest and of the latest types in its construction. It has been suggested by M. Enlart\* that the "Diamantino" tower



FIG. 10.—THE WATER-GATE OF THE ARSENAL, VIEWED FROM THE PORT.

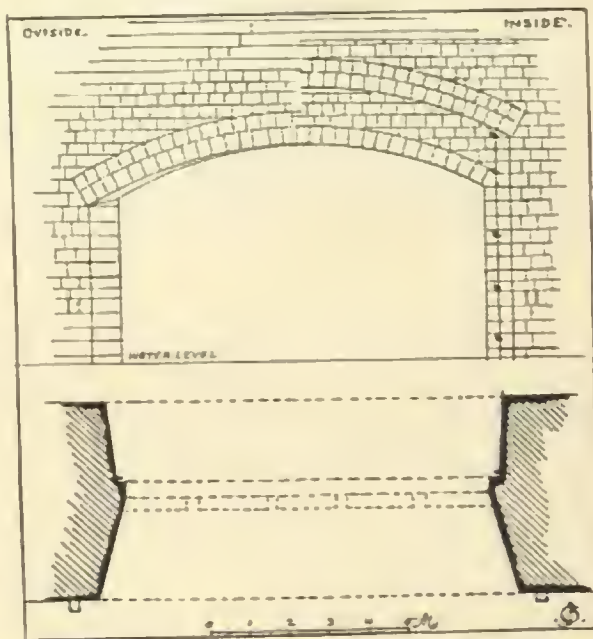


FIG. 11.—WATER-GATE OF THE ARSENAL: PLAN, WITH INSIDE AND OUTSIDE ELEVATIONS.

\* *L'Art Gothique*, p. 619.

may be of the Genoese (if not Mediaval) period, because it resembles the roughly executed work in the Levantine fortresses of that republic. But the great feature of the north side of the fortress is the immense Martinengo bastion, which is certainly one of the most imposing examples of its kind in existence. It is an immense vaulted casemate, of which the galleries may be traced on the accompanying plan, and the construction may best be understood by a reference to the views [figs. 15, 16, and 17].

In the Martinengo Bastion we see the transition stage, or compromise in designs between the older round tower or casemate of the Middle Ages and the perfected earthwork system adopted by Giulio Savorgnano about 1560 at Nicosia. The Martinengo Bastion is built of masonry of the most substantial character and in the ancient manner, but there must of course be a certain amount of filling in with earth behind the massive walls. In the construction great care has been taken to provide ventilation shafts for the escape of the gunpowder smoke,



FIG. 12.—PORTA DEL MARE. THE SEA GATE  
(BEFORE THE FORMATION OF THE NEW HARBOUR).

"spiragli," as they are called in the old books on fortification. In the walls of all the gun-chambers are small cupboards or recesses in which were doubtless stored the kegs of powder.

The average thickness of the walls seems to be about 4 metres (13 feet) of solid masonry, in some places 6 metres (20 feet), against which earth has been banked up on the inside, with the exception of the curtain fronting the port and the outer harbour. The Plan of Famagusta [fig. 1] shows the gun-chambers of the lower tier which enfilade the ditch completely. The upper tiers of artillery sweep the glacis, and the "cavaliers" or high platforms were intended to have an extensive range over the adjoining country. These cavaliers are truly earthworks with a stone facing and belong to the latest phase in the remodelling of the fortress.

No name of any engineer or "military architect" connected with the earlier Venetian building of the fortress of Famagusta survives, but the designer of the sixteenth-century fortifications as they stand at the present day is sufficiently well known.

Giovanni Girolamo Sannicchiele, the nephew of the celebrated Michele Sannicchiele, was sent to Famagusta about the middle of the sixteenth century for the purpose of designing the new fortifications of the place, and died there in 1559, aged forty-five years. The death of Giovanni so much affected his uncle, to whom he had been a chief assistant, that the elder Sannicchiele died the same year of grief. It seems reasonable to suppose that the "Martinengo" bastion, and the other extensive alterations to the walls, which evidently date (especially on the northern side) from the fifties and sixties of the century, were designed by Giovanni Girolamo Sannicchiele.

Giorgio Vasari, the famous author of the *Vite dei Pittori, Scultori, et Architetti*, was a personal friend of the Sannicchiele family, and has consequently devoted several pages to Michael and his nephew. "As the favourite pupil of his uncle," Giovanni Girolamo seems to

have devoted his attention to the "art of military architecture" exclusively. Whilst still a very young man he was given a good appointment as Government architect by the Venetian Signory, and many repairs and remodellings of fortresses within the Venetian territory were entrusted to him, as well as the carrying out of several of his uncle's designs. Amongst his earliest works were the fortresses of Zara and the remarkable fort of S. Nicolo placed at the entrance of the Gulf of Sebenico. He also remodelled the great fortress of Corfu (considered the "Key of Italy") with the assistance and advice of his uncle, employing many ingenious devices for the complete defence of the position. Giovanni Girolamo had a remarkable aptitude for judging the capabilities of sites for fortification, and in addition he was particularly clever in making relief models of his projects, much to the satisfaction of his employers, the Venetian Signory, who were so pleased with these models that they caused them to be preserved in the Palace of the Doges for public exhibition.

In spite of offers and rich inducements from various princes Giovanni Girolamo continued faithful to his beloved Venice, and with the idea of spending his life there he married a lady of the noble family of the Fracastori of Verona. But, alas! within a few days of his marriage with his beloved Madonna Hortensia, he was suddenly called to Venice, and thence sent in great haste to Cyprus to study its defences. Arriving in Cyprus he spent three months in travelling and inspection in the island, preparing a complete report upon the subject. But whilst engaged in these arduous labours, and careless of his own health in the burning heat of the climate at that season, he fell sick of a pestilential fever which carried him to the grave at the end of six days. At the same time there were not wanting those who attributed his death to poison. However this may have been, he died happy in the satisfaction of having executed important works in his profession of Military Architect, a profession he esteemed above all others. Directly he was aware of the fatal nature of his illness he bequeathed all his writings, drawings, &c., relating to the affairs of Cyprus to the care of Luigi Brugnoli, a cousin of his, and an architect engaged at that moment on the fortifications of Famagusta, the so-called "Key of the Kingdom," in order that the documents might be forwarded to the Venetian Signory.

The news of Giovanni Girolamo's death excited much regret amongst the Venetians; the Republic could ill spare so capable and devoted a servant. Giovanni Girolamo Sannicelle

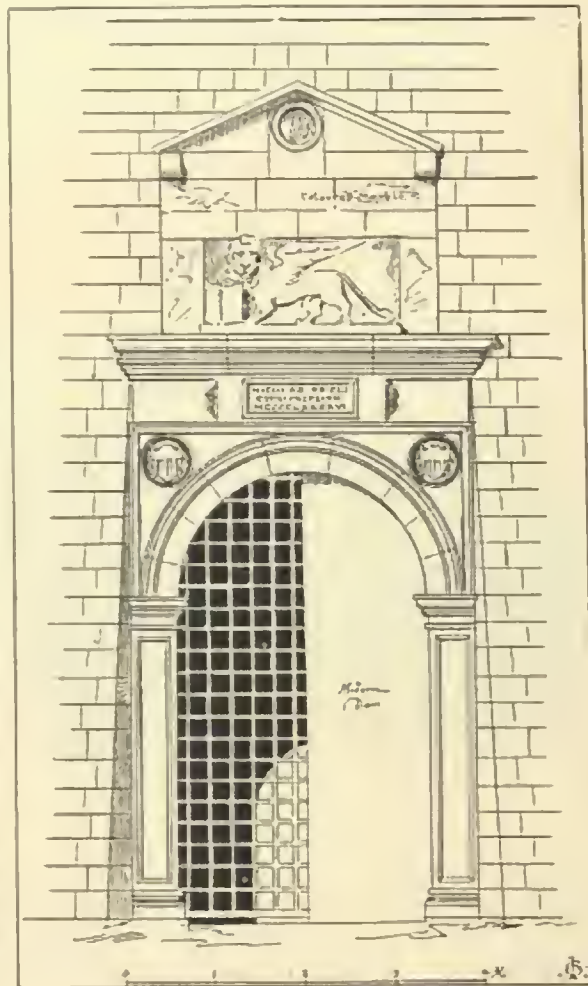


FIG. 12.—PORTA DEL MAR (THE SEA GATE).

died at the age of forty-five years, and was buried with all honour in the Cathedral of S. Nicholas, Famagusta.

Luigi Brugnoli, after attending to his relative's obsequies, immediately repaired to Venice, carrying with him the documents of the deceased for presentation to the Signory. On his arrival he was dispatched to superintend the completion of the fortifications of Legnago, where he had previously been engaged for many years in carrying out the project of his uncle, Michele Sanmichele. Here he died not long after his arrival. (Vasari, *Vita di Michele Sanmichele*.)

In the *Storia dell' Architettura in Italia*, by Marchese Ricci (Modena, 1860, iii. p. 296), is an excellent *résumé* of the history of early artillery fortification. According to this account the first introduction of the bastion system was due to a certain Francesco di Giorgio Martini, of Siena (c. 1480). Early attempts were, however, little more than the round towers



FIG. 14.—A CORNER TOWER OF THE CITADEL.

of the Middle Ages projecting from the curtain wall of a massive stone fortress. To Michele Sanmichele must be attributed the actual adoption in practice of the triangular bastion with its "piazze" and "orecchioni" or covered embrasures for cannon enfilading the curtain walls and neighbouring bastions. But although no earlier example of this idea seems to exist in actual construction than the famous bastion of the "Maddalena" of Verona, built by the great master in about 1520, several suggestions for such a treatment may perhaps be traced in the drawings by other architects of the period; notably in a drawing by Leonardo da Vinci, "*disegno del rivellino per un forte*" (discovered by Cav. Venturi of Modena, and perhaps intended for the use of Cæsar Borgia). Marchese Ricci gives a lengthy description of the famous Castle of S. Nicolo, erected by Sanmichele on the Lido, to protect the

port of Venice; a remarkable work considering the nature of its foundations, and yet the enormous solidity with which it is constructed. Its architectural decorations are extensive, and well designed for the positions they occupy. Fronting the sea in a majestic manner, it seems to bid defiance to the waves and winds as well as to the enemy who would dare to invade the quiet waters of the lagunes. Its architectural character was considerably injured by an attic added to the work at a subsequent date.

The walls of Verona are perhaps the best known, and also the finest examples of Sanmichele's work. The gateways designed in the pseudo-classic style afterwards became the models for such features of a monumental city, and the type was generally adopted all over Europe in succeeding ages. It was, perhaps, a somewhat wasteful display of architectural pomp and magnificence to decorate with sculpture and all the refinements of the "classic orders" those parts of the city wall which would naturally receive the greatest amount of damage during a siege; but in those martial days, when warfare was regarded from a more sportive and less scientific point of view than at the present time, the splendidly attired armies of the period

demanded an appropriate display of fine architecture in their fortifications and lodgings. The Venetian military engineers of the sixteenth century were the inventors of what is styled, according to an old classification, the "Italian type" of fortress; and this is the earliest of the four styles which are associated with the successive developments of the military art during a great part of the period from 1475 to 1715. The best preserved of the fortresses in the "Italian style" are perhaps to be found in the Levant, although Treviso, Verona, Turin, and many other towns of the Italian peninsula, and even such modernised cities as Milan,

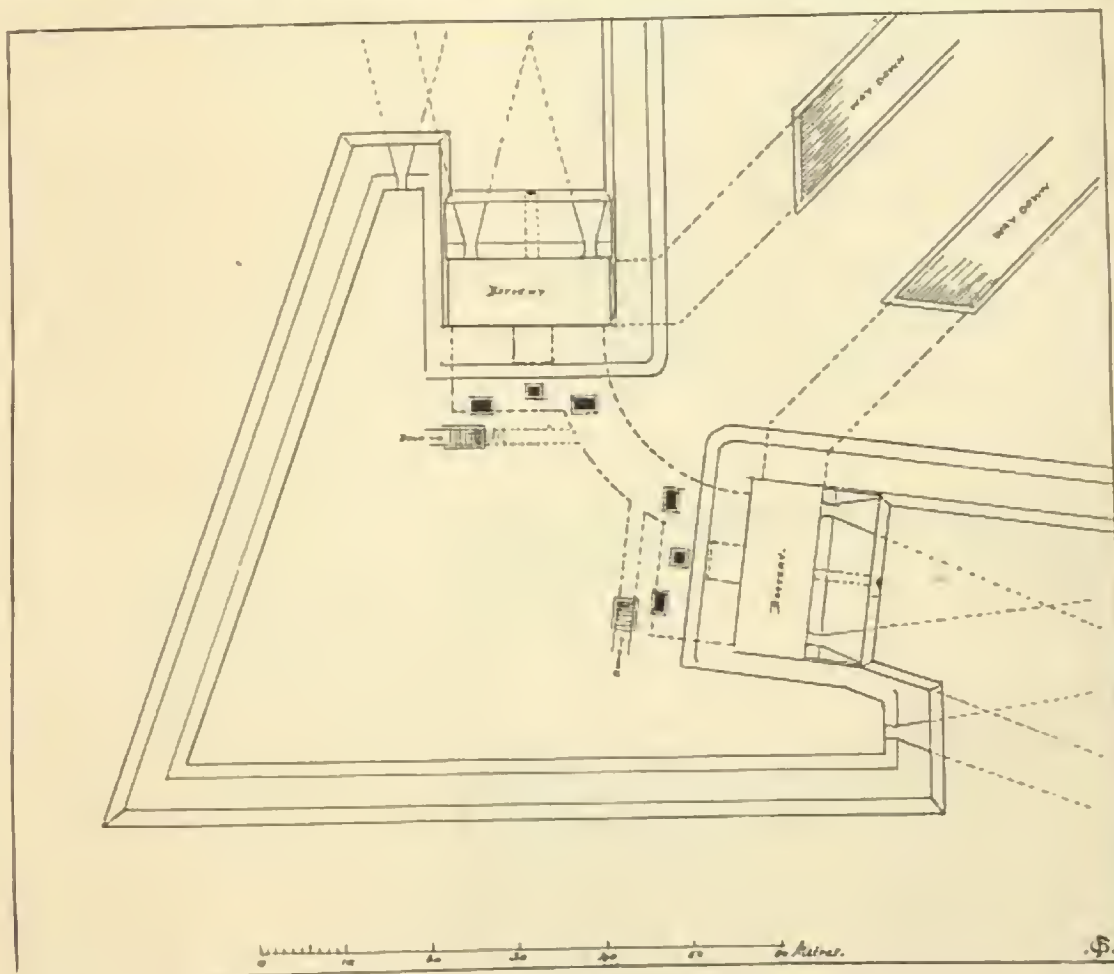


FIG. 16.—SAN MARTINO BASTION: PLAN.

retain to a remarkable extent their ancient walls of the sixteenth century. Negroponte, Napoli di Romania (Nauplia), Maina, the fortresses of Crotte and Cyprus, to mention but a very few amongst the scores which still attest the magnitude of the Venetian Republic, afford an interesting study in ingenuity and fertility of invention in overcoming natural obstacles and difficulties of site. Some are founded on sandy seashores, or on the picturesque rocks skirting the bays of the Ægean; others climb the inaccessible cliffs and hills of more inland districts, but everywhere they blend and harmonise with the landscape, their massive proportions, covered with moss and wild flowers, adding a touch of human and romantic interest to the beautiful scenery of the Levant. As political and historical memorials they have few rivals either in magnitude

or solidity of construction. The classic remains of Egypt, Greece, and Rome are, after all, not more monumental in material or construction, and their interest cannot be greater as the landmarks of the flow and ebb of ancient civilisation.

#### RELIEF MODELS OF FAMAGUSTA.



FIG. 16.—RELIEF MODEL OF A FORTRESS (CASSINA, c. 1620) ON THE PEDIMENTAL OF A COLUMN, FAÇADE OF CHURCH OF S. MARIA DELLA GROTTA, VENICE.



FIG. 17.—VIEW OF RAVELIN FROM AN EMBRASURE.

In the Museum of the Arsenal, Venice, are preserved two interesting relief models of Famagusta, evidently the work of the sixteenth century. One of these hangs on the wall at the entrance of the museum, ground floor. It measures about 1 metre  $\times$  1 metre 50 cm., and is evidently carefully executed to scale. It is wrongly labelled "Mina." On it all the buildings adjoining the fortifications are also shown in relief [perhaps they were considered Government property], but the churches, the cathedral, and even the "Palazzo del Proveditore" are omitted. The Limassol Gate bastion is shown without the ravelin, and of course the famous Martinengo bastion is not represented, but in its place

the wall is shown in a simple curve from the "S. Luca" bastion to the bastion "del Mozzo," with one demilune between, which now no longer exists. This interesting relief model may perhaps represent the completion of the works undertaken by Nicolo Prioli after the commencement made by his predecessor, Nicolo Foscari, in 1492, at the citadel.

Another relief model in the Arsenal collection, also intended to represent Famagusta, is a very inferior piece of work, evidently by someone who had never seen the place. It is correctly labelled "Famagusta," but seems like some project never executed. The Martinengo bastion is shown, but there are many divergences from the actual work, which may be either intentional or the result of ignorance on the part of the maker of the model. The ancient citadel is not shown on this plan, and on the west side of the city is represented a

remarkable gateway which never had any existence. It should be noted that both these models were "restored" in 1872. What the value of such "restorations" can be at the present day is best known to the military authorities of the Arsenal.

Could these models have been the work of Giovanni Girolamo Sanmichele, as described by Vasari? It would be interesting to know something about the collection of such things which lines the entrance-chamber of the Arsenal Museum at Venice. At present the objects are guarded with the greatest care (perhaps a mere matter of military routine surviving from the days of the Venetian Republic), and no one is permitted to take photographs or make notes on these seventeenth century fortresses whose value for the purposes of modern warfare would perhaps be on a par with the use of plate armour, rapiers, and flint-lock guns.

#### THE HARBOUR OF FAMAGUSTA.

As was usual with mediæval ports, the harbour mouth was protected by two towers, which are clearly enough shown on the curious broadsheet engraving published by Stefano Ghibellino, of Brescia, in 1571. (A reproduction of this is included in Enlart's *l'Art Gothique*, 1899.) The tower which stood on the end of the protecting mole or reef of rocks forming the harbour has completely disappeared, and the tower on the land side of the harbour mouth, of a parallelogram plan, has been partially rebuilt during the recent construction of a modern entrance to the new harbour.

During the progress of the modern works in 1903-04 the present writer discovered the remains of the ancient iron chain, once stretched across the harbour mouth, lying on the new quay: it had been fished up during the course of operations. He immediately secured it for the small collection of mediæval fragments now deposited in an ancient chapel in the centre of the city which has been apportioned for the purpose. This chain, which, to judge by its corroded links of about 35 centimetres in

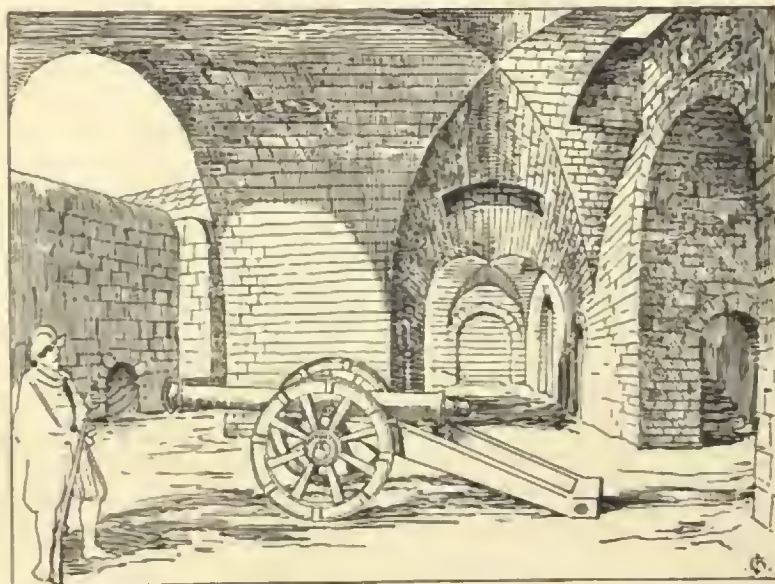


FIG. 18.—INTERIOR OF MARTELLO BASTION.

length, was made out of round bar iron about four centimetres in diameter, was suspended across the mouth between the two towers. One end of it was fastened to the tower on the mole; the other end was affixed to a windlass within the lower story of the landside tower; and in this way it could be raised to the level of the sea as a barrier or dropped to the bottom to allow of the passage of vessels. This relic will suggest the similar chain hanging in the Campo Santo at Pisa.

The harbour of Famagusta was considered of little importance even in the sixteenth century (*vide* Paruta's *Guerra di Cipro*, c. 1590). It could then contain but a very few large vessels: its value depended on the fact that it was the only port of a secure kind existing

in the island where the galleys of the period could take refuge and lie up for repairs during the stormy months of winter. Jauna (*Histoire de Chypre*) states that the port could only be used by ships of war after they had discharged their artillery.

After the Turkish occupation of Cyprus, Famagusta ceased to be considered a commercial port; the trade of the island passed through Limassol and Larnaca, where the foreign consuls had their establishments. Previous to the Venetian period Limassol had probably recovered its position as chief port of Cyprus owing to the Genoese occupation of Famagusta. Larnaca came into prominence more especially after the events of 1571.

#### NOTE ON THE ARTILLERY OF THE SIXTEENTH CENTURY.

Amongst the wonderful developments in arts and science during the sixteenth century none was greater than that in the art of cannon-founding and the manufacture of arms. Collardo, in his *Pratica Manuale di Artiglieria*, 1586, gives a list of the guns in use at his period and of their capabilities:—

Rebadochino	carried	1 lb. shot	280 paces.	
Falconetto	"	4 lb. "	400 "	(on an elevation 3,000 paces).
Mezzo Sagro	"	5-7 lb. "	500 "	( " 4,000 " ).
Sagro	"	8-10 lb. "	800 "	( " 5,000 " ).
Mezzo Columbrina	"	16-18 lb. "	1,000 "	( " 6,000 " ).
Columbrina	"	20-45 lb. "	3,000 "	( " 8,000 " ).

Morana, a short naval gun, carried a shot of 8-10 lb.

Cannon cast for iron balls could also carry stone shot, but not *vice versa*.

The Turks often dispensed with gun-carriages: they trained their guns on the ground. The Turks were also in the habit of transporting their heavy cannon in a broken-up condition, as the roads suitable for wheeled vehicles were rare in any part of Turkey until within a very few years back. In their campaigns against the Persians the broken-up metal conveyed on the backs of donkeys and camels was recast on the site of a siege. When the Turks evacuated Famagusta in 1878 they were allowed to remove the armament, and for that purpose they blew to pieces most of the larger cannon, many of which were probably of artistic and historic interest.\*

Mr. C. D. Cobham, C.M.G., formerly Commissioner of Larnaca, has contributed the following note on the Famagusta armament. "Angelo Angelucci, in *Archivio Veneto*, viii. 1 (no date), describes seven guns from Famagusta given by the Sultan in 1870 to the Duke of Aosta and now in the Arsenal of Venice. They are all cast by Venetian gunsmiths:—

1. Falconetto da 2 lb.	. . . . .	Dated 1550.
1. Cannone da 50 lb.	. . . . .	" 1568.
3. Cannone doppi da 100 lb.	. . . . .	" 1574.
1. Falcone da 6 lb.	. . . . .	" 1560.
1. Aspide da 12 lb.	. . . . .	" 1530."

In this connection it may be of interest to include some account of the gun recently discovered at Famagusta, which proves to be one of the most remarkable archaeological *trouvailles* on record.

By a mere chance the sponge-fisher Stavrinou Koutales, of Kastellorizo, whilst pursuing his vocation at a short distance from the harbour, discovered the cannon half buried in the sand and mud at the bottom of the sea. Finding that it was of bronze he ventured to suggest the raising of it for the value of the metal—a suggestion which was fortunately adopted by

\* The ancient artillery of Famagusta, many specimens of which were very large, was disposed of by the Turks for

a considerable sum to the famous "Baron" Hirsch, the Jewish philanthropist.

the Cyprus Government. The operation was successfully carried out on the 1st November 1907.

The Curator of Ancient Monuments was invited to inspect the gun on its being landed on Famagusta quay, and much to his astonishment recognised amongst its decorations the familiar badge of the Tudor dynasty of England as well as the coat-of-arms of a Grand Master of the Order of St. John, Villiers de l'Isle Adam. The combination of these badges, at first puzzling, refers to a little-known page of history. In the *Histoire des Chevaliers de Saint Jean de Hierusalem*, by I. Bandoin, Paris, 1629, folio, appears a full account of the donation by King Henry VIII. to the Order of St. John of a "park of artillery," in the year 1527, as a contribution towards the expedition which the Knights were contemplating for the recovery of Rhodes.

Philip Villiers de l'Isle Adam, Grand Master 1521-1534, passed most of his reign in a state of exile. Driven from Rhodes by the Turks after one of the most famous sieges in history, he was obliged to establish the headquarters of the Order in a temporary manner successively at Viterbo, Nice, and Malta. During his stay at Nice he made a journey through Northern Europe for the purpose of collecting funds with which to carry on the war with the Turks in the vain hope of recovering his lost possessions. During this begging expedition he visited the English Court, and seems to have been received with considerable favour and as a sovereign prince.

Bandoin's account of the visit of the Grand Master to England is as follows:—

"Ce qui fit prendre opinion au Grand Maistre (Philippe de l'Isle Adam) d'y aller, nonobstant son vieil age et la rigueur de l'hiver. . . . Le Grand Maistre partit sur les galeres le deuxiesme jour de l'an 1527 et prit terre à Antibes, et de là prit le Chemin de la Cour. . . . Et avant que d'entrer dans Londres, il s'arresta en la Commanderie de S. Jean où il fit assembler les grands Croix et les Commandeurs d'Angleterre et d'Ecosse, et trouva que le Roy avoit laisse prendre possession du Prieuré au nom de la Religion, en luy payant par Veston nouveau Prieur quatre mil livres à l'esterling chacun an. Les Milors et Noblesse de la Cour luy allerent au devant, et fut logé au Palais du Roy auquel il fit le discours de Rhodes, et luy communiqua les desseins et les



FIG. 19.—VIEW OF THE WEST WALL FROM AN EMBRASURE OF THE GREAT RAVELIN.



FIG. 20.—VIEW OF THE GREAT RAVELIN AND THE LAND GATE BASTION FROM AN EMBRASURE OF THE SOUTH WALL.

moyens de la recouvrer. Le Roy promit d'y contribuer vent mil escus (qui furent depuis payez en bonne artillerie) et en cas que l'entreprise ne réussist, fut content qu'on acceptast Malte. . . . Au depart du Grand Maistre le Roy et la Royne luy firent d'honestes presents : entre autres un bassin et une coupe d'or fort enrichy de pierreries que le Grand Maistre rapporta au thresor," p. 294.



FIG. 21.—HENRY VIII.'S GUN, ON THE TERRACE OF GOVERNMENT HOUSE, NICOSIA.

Another account of the same incident is contained in the Abbe de Vertot's *History of the Knights of Malta* (English translation, London, 1728, folio):—

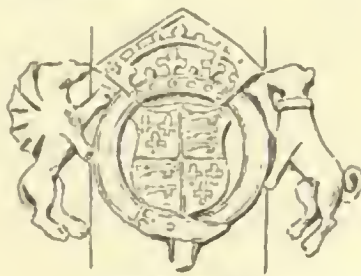
"The king of England thought the design of re-conquering Rhodes was a project highly worthy of the grand-master's courage and valour: and he, in order to have some share in so noble an enterprise, promised him 20,000 crowns, the value of which he paid afterwards in artillery and firearms."

Still another reference to the matter occurs in a modern work, *L'île de Rhodes*, par MM. Biliotti et Cottret, 1881, p. 343. "Le Roi d'Angleterre, Henri VIII., envoya à l'Ordre 10 gros canons de bronze et 1023 boulets."

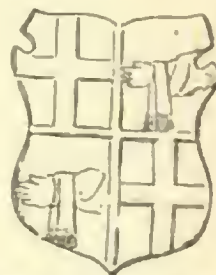
In view of the above historical statements it is perhaps impossible to doubt the identity of the bronze cannon found at Famagusta as one out of the nineteen guns presented by King Henry VIII. to Villiers de l'Isle Adam. It happens also to be numbered XLIII on the moulding of the breech. As a piece of bronze casting it is of very inferior workmanship, and compares unfavourably with contemporary French or Italian examples. The different parts of the wooden mould have been fitted badly, and the hedges and inscription are of the roughest description. Above the coat-of-arms of De l'Isle Adam is a label with a name inscribed, but only the central letters "LEAD" are legible.

To speculate upon the way in which this old cannon has found its way to Cyprus would perhaps be vain; we may, however, conclude without improbability that it once stood upon the bow of some Maltese galley which was wrecked just outside Famagusta harbour. It has lain at the bottom of the sea for perhaps nearly four hundred years, and now, rescued from a watery grave, it stands on an appropriate pedestal as a decoration of the terrace of Government House, Nicosia.

Sea water seems to have but little effect upon bronze or gun-metal. But for a few marks or stains, where the extent to which it has sunk into the sea bottom is shown, the gun still remains in perfect preservation.



Badge of Henry VIII.



Badge of Villiers de l'Isle Adam.

## ROMANO-BRITISH PRECEDENTS FOR SOME ENGLISH ROMANESQUE DETAILS.\*

By C. F. INNOCENT [1.].

ROMANO-BRITISH details exist, for the most part, in fragmentary condition in museums or buried *in situ* under the accumulated debris of ages, and our knowledge of Roman work is derived generally from books of the Orders and from examples at Rome, Pompeii, and other homes of art. Such cities as Rome and Pompeii were highly civilised; but Britannia was at the end of the Empire, and though all roads led to Rome, the City was far off. Many of the details of Romano-British work are crude, almost barbaric, and interesting to students of architectural history for their close likeness to some of the most usual and persistent minor features of the Romanesque styles.

Professor Baldwin Brown in *The Arts in Early England* pointed out some of these resemblances: such are the (1) banded or baluster shafts; (2) astragal or cone ornament; (3) columns apparently without diminution or entasis. These occur both in Romano-British and Romanesque work, and it is unnecessary to say more concerning them. Professor Brown also mentions Roman mosaic patterns copied on Romanesque stones, an example of which occurs at St. Mary's Church, Lancaster.

The examples which follow are, with one or two exceptions, from my own observation.

The chevron or zigzag is the most common Norman ornament and occurs from the Viking age to the transition to Gothic: it is one of the most universal and, indeed, one of the most primitive of decorations, and it is therefore somewhat surprising to find it in Romano-British work; but, formed of simple incised lines, it occurred, *e.g.*, at Carnarburgh (Procolitia), and with the zigzags in relief, *e.g.*, at Chesterholm (Vindolana). When the angles of the zigzags of the latter variety are connected, triangles are formed, which is a common decoration of Romano-British altars, and also occurs in the Norman style; in the Black Gate Museum at Newcastle a variety of this ornament occurs with the triangles divided by vertical lines. A combination of both these two Romano-British decorations is on a stone built into Loughton-en-le-Morthen Church. This does not seem to have been previously recorded; it was probably a jamb stone

of a church earlier than any portion of the existing building.

Another of these primitive line ornaments is formed of crossed lines. This was a favourite ornament during the Viking age, and it also decorates the imposts at the early Norman church at Hooton Pagenal, Yorkshire, and occurs on a Romano-British finial at the York Museum.

Another common Romanesque ornament is the cable moulding, in vogue from the beginning to the end of the period; thus it occurs in the early Anglian period as a border to the band of running animals at Monkwearmouth (if that is really the work of Benedict Biscop); on the Viking-age cross shaft at Halton, Lancashire; on early Norman bases at Hooton Pagenal, already mentioned; on the corbel table of the later Norman church at Kilpeck. The cable moulding is one of the most common Romano-British ornaments.

Pellets arranged in rows form both Anglian and Norman decorations, and scattered promiscuously or used to fill up gaps in plaitwork are one of the surest evidences of Scandinavian influence. Pellets occur on a Romano-British stone in the Chesters Museum.

When the pellets are arranged circularly round another pellet they make the most usual form of Anglian rosette; there is an example on the stones considered to have been string-courses of the "Saxon" church of Bakewell, Derbyshire. They also occur in the Norman style, and a Romano-British example is in the Newcastle Museum.

Pellets, when small, approximate to the so-called nail-head, which was in vogue in the later English Romanesque for some two hundred years. This again was a Romano-British ornament.

Nearly allied to the nail-head is the Romanesque ornament known as the star, of which the early Gothic tooth ornament is probably a development. A star ornament of Roman times occurred at Castlesteads.

Many Roman mouldings are exceedingly rude, and are as varied and bizarre as Saxon mouldings.

The roll, most common of Romanesque mouldings, is also Romano-British; the roll moulding is, however, merely an arris-bead of clumsy proportion.

Romanesque chamfered imposts and abaci continue from the west doorway at Monkwearmouth to the close of the period. A Romano-British chamfered impost still remains in position

\* The term "Romano-British" is here applied to work executed by the Romans in these islands while they were a portion of the Roman Empire, and the term "English Romanesque" is applied to the styles current in England from the reintroduction of Christianity to the complete development of the Gothic style.

on the east gateway at Chesters (Cilurnum). "Clustered" columns of Romano-British date occur at Lincoln. There are naturally more remains of bases than of shafts and columns. A peculiarity of some Norman bases is the slight projection in proportion to height, and Romano-British bases in the York Museum show the same peculiarity: their greatest projection to height is about 1 to 3. Towards the end of the Romanesque period a "water-holding" base appears, and this is paralleled by an example from Silchester (Calleva), to which the editor of *The Builder* has drawn attention. At Brough, Derbyshire (Nanto), is a most unorthodox Romano-British base; it consists of a roll, circular in plan, which projects over the sides of a square plinth, the edges of which are chamfered off to fit under the roll; the earliest Norman caps are formed upon the same principle. A double bead or torus occurs as a base-moulding to some Norman shafts, and a similar double torus occurs on a column base at Chesters (Cilurnum). Double beads as borders to panels or arched moulds are equally Romano-British and Romanesque.

The two usual Romanesque base courses, i.e. offsets and chamfers, are also Romano-British. A waved moulding which occurs on late Romanesque bases, as at Kilpeck, Herefordshire, is similar to a common Romano-British base-mould. Some of the stones lying among the ruins of the Romano-British bridge over the North Tyne are moulded with a section which recalls *larmiers* of the transition, and the building which commanded the western abutment of the bridge has pilaster buttresses of considerable projection.

Stone lintels, weakened by being cut into an arch form, exist from Jarrow and Escomb to the end of the Romanesque style and beyond; similar stones formed the door-heads of gateway guard-rooms on the Roman wall. The arch of the Saxon doorway at Langton-en-le-Morthern Church exhibits voussoirs whose length varies regularly from the springing to the apex. The side arch of the Newport gate at Lincoln exhibits a similar arrangement.

Crude bunches of grapes are a common feature of Anglian scrolls; occasionally the bunches are horizontal, or even upright, with the stalks below, as on the Sheffield cross shaft—presumably a work of the beginning of the ninth century. A

meagre scroll with crude horizontal bunches of grapes occurs on a stone in the Newcastle Museum. This scroll is leafless, and scrolls practically leafless are common in work of the Anglian period and also on Samian ware. A scroll of stems only occurs upon another stone in the Newcastle Museum.

The most common late Norman leaf is a Byzantine-like acanthus, in which each lobe is sunk from edge to centre, and similar leaves occur on a Romano-British capital from Houssteads (Borecivens). Quite at the end of the Romanesque period a foliage-decoration occurs in which the leaves are formed by alternating half-circles, and a similar decoration occurs on a Romano-British stone in the Museum at Chesters. Petalled paterae, either simply incised or in relief, occur throughout the Romanesque styles, and there are Romano-British examples of each variety in the Chesters Museum. Leaves formed of raised rings occur in the Anglo-Danish variety of Romanesque, and leaves formed in a similar manner are in the Newcastle Museum collection. Some Norman tympana are ornamented with a rude anthemion, in which the leaves are club-shaped, and a similar ornament occurs on a Romano-British stone from Bainbridge, Yorkshire.

The excavators of the Roman stations in Scotland reported upon the striking similarity of the details of the architecture to late Romanesque work.

It is not within the province of this paper to discuss whether the Romanesque ornaments were derived from their analogies of Romano-British times, but in any such discussion it must be remembered that enormous quantities of Romano-British work, and also of the good early Romanesque work of the eighth century, have perished. This prevents a proper comparison, or probably many more possible precedents would be known. The influence of tradition itself would also have to be taken into consideration, and tradition was extremely potent in early times; thus, near Sheffield, there is a transitional cross shaft upon which, side by side with the pointed arch, there is a Scandinavian twist and ring pattern identical with the perforated plaitwork in the tower lights of Barnack Church, Northamptonshire.

NOTE.—This paper is an extension of a portion of a lecture delivered to the Department of Architecture of the University of Sheffield.



9 CONRITT STREET, LONDON, W., 17th October 1908.

## CHRONICLE.

### London Building Act 1894: Amendments 1908.

The London County Council (General Powers) Act 1908 received the Royal Assent on the 1st August last and came into immediate operation. Part III., relating to buildings, repeals the following sections of the London Building Act 1894—section 75 (Cubical extent of buildings), section 76 (Consent to larger dimensions), and section 77 (Rules as to uniting buildings)—and substitutes new provisions. For the information of members, Part III., comprising sections 15 to 22 of the new Act, is printed below in its integrity:—

15. Words and expressions used in this Part of this Act shall unless the context otherwise requires bear the meanings assigned to them in "The London Building Act 1894" (in this Part of this Act referred to as "the principal Act") and any references in the principal Act or any existing Act amending the same to Part VI. of the principal Act or any of the provisions of that Part shall be construed as referring to such Part or provisions as amended by this Part of this Act and the principal Act the London Building Act 1894 (Amendment) Act 1898 the London Building Acts (Amendment) Act 1905 and this Part of this Act may be cited together as "the London Building Acts 1894 to 1908."

16. Sections 75 (Cubical extent of buildings) 76 (Consent to larger dimensions) and 77 (Rules as to uniting buildings) of the principal Act are hereby repealed and from and after the passing of this Act the principal Act shall be read and have effect as if the following provisions of this Part of this Act had been inserted in the principal Act instead of the said Sections 75, 76 and 77.

17. (1) Except as in this section provided no building of the warehouse class and no building or part of a building used for any trade or manufacture shall extend to more than two hundred and fifty thousand cubic feet unless divided by division walls in such manner that no division of such building or part of a building (as the case may be) shall extend to more than two hundred and fifty thousand cubic feet and no addition shall be made to any such building part of a building or division so that the cubical extent of such building part of a building or division shall exceed two hundred and fifty thousand cubic feet.

(2) Where the Council are satisfied on the report of

the Superintending Architect and of the Chief Officer of the Fire Brigade that additional cubical extent is necessary for any such building part of a building or division as aforesaid and are satisfied that proper arrangements have been or will be made and maintained for lessening so far as reasonably practicable danger from fire the Council may consent to such building part of a building or division containing additional cubical extent but such consent shall continue in force only while such building part of a building or division is actually used for the purposes of the trade or manufacture (if any) in respect of which the consent was granted.

(3) The Council may in any case in which they think fit so to do consent to any such building or part of a building as aforesaid being divided (wholly or in part) horizontally by floors to be constructed in such manner and of such materials and in all other respects as the Council may require or approve and in such case such floors shall for the purposes of this section be deemed to be division walls.

(4) The provisions of this section shall not apply to any building which being at a greater distance than two miles from Saint Paul's Cathedral is used wholly for the manufacture of the machinery and boilers of steam vessels or for a retort house or for the manufacture of gas or for generating electricity provided that such building consist of one floor only and be constructed of brick stone iron or other incombustible material throughout and be not used for any purpose other than such as are specified in this subsection and every such building shall for the purposes of the provisions of the principal Act with respect to special buildings be deemed a building to which the general provisions of Part VI. of the principal Act are inapplicable.

18. (1) Buildings shall not without the consent of the Council be united unless (a) they are wholly in one occupation and (b) when so united and considered as one building they would be in conformity with the principal Act as amended by this Part of this Act and with this Part of this Act.

(2) An opening shall not be made in any division wall separating divisions of a building of the warehouse class or used for any trade or manufacture or in any party wall or in two external walls separating buildings in any case in which such divisions or buildings (as the case may be) if taken together would extend to more than two hundred and fifty thousand cubic feet except under the following conditions:—

(a) Such opening shall have the floor jambs and head formed of brick stone iron or other incombustible materials and be closed by two wrought iron doors sliding doors or shutters each not less than one fourth of an inch thick in the panel at a distance from each other of the full thickness of the wall fitted to grooved or rebated iron frames without woodwork of any kind and all such doors sliding doors and shutters shall be fitted with sufficient and proper bolts or other fastenings and be capable of being opened from either side and shall have on each face thereof styles and rails at least four inches wide and one fourth of an inch thick and shall be constructed fitted and maintained in an efficient condition. Provided that in lieu of being constructed and fitted as

aforesaid such doors sliding doors and shutters may be constructed of any such fire-resisting materials and be fitted in any such manner as may be approved by the Council.

- (b) Such opening shall not exceed in width seven feet or in height eight feet and the width of such opening in any wall of a storey (or if there be more than one such opening in any such wall the width of all such openings taken together) shall not exceed one half of the length of such wall. Provided that any such opening may be nine feet six inches in height in a wall of which the thickness is not less than twenty-four inches or if the doors sliding doors or shutters closing such opening are placed at a distance of not less than twenty-four inches from each other. Provided also that the Council may consent to any such opening being of such greater height or width as they may think fit.

(3) Whenever any buildings which have been united cease to be in one occupation the owner thereof or if the buildings are the property of different owners then each of such owners shall forthwith give notice of such change of occupation to the District Surveyor and shall cause all openings uniting the same in any party wall or in any external wall to be stopped up (unless the Council consent to such openings or any of them being retained) with brick or stone work not less than thirteen inches in thickness (except in the case of a wall eight and a half inches in thickness in which case eight and a half inches shall be sufficient) and properly bonded with such wall and any timber placed in the wall and not in conformity with the principal Act shall be removed and if notice be not given to the District Surveyor pursuant to this section such owner or each of such owners shall upon conviction in a summary manner be liable to a penalty not exceeding five pounds.

(4) Buildings shall be deemed to be united when any opening is made in the party wall or the external walls separating such buildings or when such buildings are so connected that there is access from one building to the other without passing into the open air.

(5) The provisions of this section shall extend and apply (a) to all openings at any time after the passing of this Act made or proposed to be made in any party wall or two external walls or in any division wall notwithstanding the existence in any such wall of an opening uniting buildings or affording communication between divisions of a building (as the case may be) and (b) to such buildings as if they had not previously been united.

19. The provisions of the principal Act with respect to party walls shall extend and apply to such division walls as are referred to in this Part of this Act. Provided that in the case of any such division wall the Council may if they think fit consent to such departure as they may consider expedient from such of the said provisions as are contained in Part VI. of and the First Schedule to the principal Act.

20. A copy of any plans and particulars approved by the Council under this Part of this Act shall be furnished by the Council to the District Surveyor within whose district the building to which such plans and particulars relate is situate.

21. Any person failing to comply with any term or condition imposed by the Council in giving any consent under this Part of this Act or failing to maintain in an efficient condition any doors sliding doors shutters styles or rails or bolts or other fastenings as required under this Part of this Act shall be liable to a penalty not exceeding twenty pounds and to a daily penalty not exceeding the like amount.

22. Section 202 (Exemption of Government Buildings) of the principal Act shall be read and construed as if the exemptions thereby conferred extended also to the provisions of the London Building Acts (Amendment) Act 1905.

### Architectural Treatment of Reinforced Concrete.

The proprietors of *The Builder* are offering a first prize of twenty guineas and a second prize of ten guineas for the two best designs for the architectural treatment of the façade of a building of ferro-concrete construction, supposed to be intended for a club, with an entrance doorway in the centre. Two drawings are required: (1) A general elevation to the scale of eight feet to an inch, with a plan of the ground floor story of the front wall; and (2) a detailed elevation of one bay to the scale of half-an-inch to the foot, with plans and a section of the front wall to the same scale, the detail drawing to contain a note explanatory of the particular method of ferro-concrete construction proposed. What is especially to be aimed at is to express the character of a homogeneous and jointless structure, as distinct from the character properly belonging to a masonry building. The Building Act requirements may be disregarded, and the walls shown of such thickness as the designer considers adequate for ferro-concrete construction. The selection of the designs is to be made by Mr. Reginald Blomfield, Mr. Walter Cave, and the Editor of *The Builder*. It is proposed to publish the first premiated design in the New Year's number of *The Builder*.

So far the use of reinforced concrete for building has been confined almost entirely to structures of a utilitarian character—warehouses, factories, &c. There seems, however, no reason why structures of this material should not be as capable of correct artistic treatment as buildings of brick and stone. *The Builder* competition touches a problem of the moment, and affords the younger men of the profession an opportunity of tackling it, and of demonstrating their creative faculties in the new material. The hope may be expressed that the invitation will be largely and satisfactorily responded to. The result will be awaited with interest.

### Building Trades Exhibition Poster.

Mr. H. Greville Montgomery, M.P., is offering a prize of one hundred guineas for the best design for a poster in connection with next year's Building Trades Exhibition at Olympia.

### Reformation Memorial at Geneva: International Competition.

The jury appointed to assess the designs submitted in the international competition for the Reformation Memorial at Geneva met in that city to examine the designs on the 2nd, 3rd and 4th inst. Particulars of the competition were given in the JOURNAL for the 23rd May last, but it may be recalled that the promoters' intention is that sculpture should play the principal part in the monument and historical figures be the chief feature. The jury consisted of Professor Gull, of Zurich, who presided; MM. A. Barthelomé, sculptor; Ch. Girault, Membre de l'Institut de France; Professor Bruno Schmitz, George J. Frampton, R.A. (appointed by the President R.I.B.A.), Alfred Cartier, Horace de Saussure, and Lucien Gantier. MM. Charles Borgeaud and Victor van Berchem were delegated by the promoters to assist in a consultative capacity. Seventy-one designs had been sent in. Five of these were received after the time fixed by the conditions, but the jury decided to admit them, reserving to themselves the right to consider more fully the question of their admission should any of them find place among the designs set aside for final selection. The site of the monument is to be that part of the Promenade des Bastions which lies between the main avenue and the Rue de la Croix Rouge, grounds much frequented by the public. In the preliminary examination fifty-two designs were eliminated, and nineteen reserved for more detailed study. The schemes submitted were found divisible into three principal groups—(1) those adapted for erection on a site in the gardens; (2) those designed for the promenade; (3) those adapted for setting up against the Reformers' Wall. In the third group were included designs giving ramps or staircases to the Rue de la Croix Rouge or to the Promenade de la Treille. The third group, which gave scope for the monumental utilisation of the Wall, commended itself to the jury as the most satisfactory. The first prize (10,000 francs) was awarded to No. 52, under the motto "Le Mur." The jury were unanimous that this design offers the best solution architecturally, possessing as it does that character of dignity and severity which the memorial should present, and by reason also of its adaptability to the site given and the distribution of the sculpture. The models of the figures, however, lacked the fine sculptural qualities present in some of the other designs, notably Nos. 41, 26, and 18, and the jury advise arrangements being made with the authors of these designs in order that the best sculpture the competition has called forth may be available for the monument. The authors of No. 52, the selected design, are MM. Monod & Laverrière, architects (Lausanne); Taillens & Dubois, architects (Lausanne); Raymond, sculptor (Paris). The second prize (6000 francs) went to

design No. 41, whose architectural, and especially sculptural, qualities were commended; the authors are MM. H. P. Nénot, architect; Paul Landowski, sculptor; and Henri Bouchard, sculptor, all of Paris. Prizes of 2000 francs were awarded to design No. 1, Guido Bianconi, sculptor (Turin); No. 2, Paul Becher, sculptor (Berlin); No. 3, Edmond Fatio, architect (Geneva), aided by Adolphe Thurs, architect (Paris), and A. Seysses, sculptor (Paris); No. 18, H. Janos, sculptor (Budapest); No. 26, Charles Plumet, architect (Cirey, France), and De Niederhansen Rodó, sculptor (Berne); No. 27, P. Heurtier, architect (Paris), collaborator G. Thorimbert, and F. Sieard, sculptor (Paris), collaborator L. Barais; No. 32, Jean Fiault, architect, and André Vernare, sculptor, both of Paris.

### The late David Gostling [F.]

Mr. David Gostling, who died on the 10th September last, aged sixty-nine, passed into the Institute in the Class of Proficiency of the old Voluntary Examination in the year 1863, and was elected Fellow in 1878. During his forty-three years' practice in Bombay he was largely engaged in the designing and erection of cotton mills, and with his partner, Mr. James Morris, now retired to England, was responsible for the design and construction of the following, among other buildings in that city:—The Standard Offices, Green's Restaurant, the Gyinkhana Chambers, the Free Church, *The Times of India* premises, the Jewish Synagogue, the Tata Palace, Whiteaway Laidlaw's premises, and the Army and Navy Stores buildings in Bombay and Calcutta. Mr. Gostling enjoyed a great reputation as an expert witness in the Indian Courts, and for many years was a Government nominee on the Bombay Corporation. The practice founded by Mr. Gostling is now carried on by Messrs. Chambers and Fritchley, both of whom are Fellows of the Institute.

### The late Leopold Eidlitz [Hon. Corr. M.]

In the *Architectural Record* (New York) for September and October, under the title "A Great American Architect," Mr. Montgomery Schuyler surveys the career of Leopold Eidlitz, who died in New York on the 22nd March last. Mr. Eidlitz was born in Prague, 29th March 1823, and was educated in his native city and afterwards at the Vienna Polytechnique. While undergoing training for the calling of a land steward, for which he was at first destined, his imagination became fired with the possibility of doing greater work than the erection of the humble class of building which would fall within the province of a land steward. With the intention of taking up architecture as a career, he went to New York in 1843, and entered the office of Richard Upjohn, the pioneer of the Gothic Revival in America. After a few months he became associated in partnership with a young Bavarian,

Mr. Blesch, a Grand Prix of Munich, and the two collaborated in the design of St. George's Church, New York. His partner falling ill, the work was executed entirely under Eidlitz's superintendence, and he became the recognised architect of the church. The popular success of the building was immediate and striking, and with that success young Eidlitz found himself fairly launched as a Gothic practitioner. In 1850 and for years afterwards, to be a Gothic architect was to be a church architect, and Eidlitz's practice at this period was confined almost exclusively to ecclesiastical work. Of the thirty or more churches for which he was responsible in various parts of the country, his acknowledged masterpiece is Christ Church in St. Louis, afterwards the Episcopal Cathedral. This building, which Charles Kingsley described as "the most churchly" church he had seen in America, is a piece of skilful and scholarly Gothic in which the scholarliness by no means excludes individuality. A building of Eidlitz's of a totally different character is the Jewish synagogue in Fifth Avenue, the most conspicuous and probably the most meritorious of the works of its author which still stand in New York. The building is an attempt to combine Gothic structure with Saracenic decoration, including in that term carved and moulded as well as coloured ornament. The result is a fusion of styles real and complete, not only in the exterior, but in the interior, where occur such technical incompatibilities as a regular round-arched triforium amid Alhambresque decoration, and minarets crowned with Gothic foliated finials. Mr. Schnytler devotes several pages to appreciative criticism of Mr. Eidlitz's secular work—the American Exchange Bank; The Continental Bank; The Produce Exchange; The Academy of Music in Brooklyn—destroyed by fire in 1903; The Dry Dock Savings Bank—still, after a full generation, remaining the chief architectural ornament of the Bowery.

Mr. Eidlitz was elected an Hon. Corresponding Member of the Institute in 1898. In the previous year he presented a Paper to the Institute on "The Educational Training of Architects," which was read and discussed at the General Meeting of the 1st March 1897 [JOURNAL, 4th March 1897].

#### Architects' Technical Bureau.

A meeting of the Architects' Technical Bureau was held on the 24th ult. at their Offices, Bloomsbury Mansions, Hart Street, when the autumn and winter programme was discussed. Among matters brought forward was a proposal to organise periodical conferences between architects and leading manufacturers for the purpose of eliciting the views of architects as to the better architectural treatment of designs and fittings produced by manufacturers. An instance in point is the almost total disregard of architectural feature in an every-

day commodity such as a gas-stove. The Committee also discussed means for giving assistance to architect subscribers in dealing with the mass of literature sent them from manufacturers. A busy man has not the time to search through this heterogeneous mass for what is likely to be of interest, with the result that subjects of real value are passed over. Committees are suggested to select those subjects that are of sufficient merit to warrant an architect's attention, and to send to the subscribers this information in a standardised form for filing in a folio to be supplied by the Bureau for the purpose. It is stated that the Bureau is receiving the support of a large number of architects and manufacturers, the roll of subscribers exceeding one thousand. Since the last meeting the Bureau has dealt with some three hundred inquiries from architects requiring information on building materials, specialities, &c. The Bureau is organising a conference between the manufacturers of gas-apparatus, as represented by the Society of British Gas Industries, in conjunction with the Institution of Gas Engineers. The Secretary of the Bureau is Mr. F. R. Gould Wills [A.].

#### Proposed International Memorial to Augustus Saint-Gaudens.

The American Institute of Architects are arranging to hold an exhibition of the sculptural work of Augustus Saint-Gaudens during their annual convention on the 15th, 16th, and 17th December next; and on the opening day the American Institute will hold a memorial meeting in appreciation of his fame. In a circular letter addressed from the Institute reference is made to the universal esteem in which the genius of Saint-Gaudens is held, and the principal art societies of the world—painters, sculptors, and architects—are invited to send for the occasion a short tribute showing their appreciation of his work.

#### The Examinations.

The Council, acting on the recommendation of the Board of Examiners, have decided to hold the Preliminary and Intermediate Examinations for Liverpool candidates at the University of Liverpool, under the auspices of the University.

The Council have appointed a Committee to give further consideration to the list of books recommended to students preparing for the Institute Examinations, which was printed in the last number of the JOURNAL. The list will be withheld from publication in the KALENDAR pending the Committee's report.

## REVIEWS.

## INDIAN ARCHITECTURE.

*The Imperial Gazetteer of India. The Indian Empire, Vol. II. Historical. New Edition. Published under the authority of His Majesty's Secretary of State for India in Council. Sec. Ocon. 1908. Price 6s. net. [The Clarendon Press, Oxford.]*

This second volume of the Imperial Gazetteer of India deals with the history of the inhabitants of India and their works,—from prehistoric times to the appointment of the Earl of Minto as Viceroy,—as revealed by indigenous epigraphy, coinage, literature, and architecture, besides including concise accounts of the European settlements and British rule. The work has been done in fourteen chapters, each practically complete in itself, by ten different authors, but so edited as to read consecutively with little overlapping. The matter, of necessity, is exceedingly condensed, but at the same time the important historical landmarks are well accentuated.

Turning to the chapter on Indian Architecture, by James Burgess, what strikes one most is that he has approached his subject from the archaeological and historical, and not so much from the architectural, standpoint. Naturally this and the two chapters on Indian archaeology, by Vincent A. Smith, suffer from lack of illustration, but the reader is asked to refer to Fergusson's great work on Indian and Eastern architecture, which is really indispensable while perusing these chapters.

Incidentally the peoples of India and all those interested in the preservation and study of native architecture should be grateful to the Government of India for the noble work the Archaeological Survey is carrying out in this direction, and it is to be hoped that a survey on somewhat similar lines will be soon inaugurated to deal with the historical monuments at home.

Both authors lay stress upon the fact that early works were greatly influenced by the architecture of the Near East, dating from after the campaign of Alexander the Great, in the fourth century B.C., until the time when Buddhist architecture matured.

Before commencing the history of the art Dr. Burgess gives his definition of architecture. It "is something more than the mere art of building in any form; and, if a definition is required, it must be that it is the fine art of designing and constructing ornamental buildings in wood, stone, or other material. It is thus distinct from common building or civil engineering."

Wood was from the earliest times the constructive material of Burma, China, and Japan, and remained so even as late as the fourth century A.C. This material can be traced in the designs of the Sanchi gateways to the second largest of the Stūpas. These Stūpas, or funeral tumuli, were constructed in great numbers, together with large

stone commemorative pillars, by Asoka the Great, King of Magadha or Behār; he was the first important sovereign to be converted to Buddhism, and, like the later Christian convert, Constantine, was a great religious builder. The remaining pillars set up by him have a great likeness to earlier Assyrian and Persian sculpture, which appears to indicate that it was through this influence that these forms came. The Stūpas were at first only small in size, and contained relics of Buddha and his disciples. The largest and second largest of the Sanchi-Kāṇākhedā Stūpas are given as accepted examples of the Asoka pattern. "On a low circular drum a hemispherical dome was constructed with a procession path round the latter, and over the dome a box-like structure surmounted by an umbrella and surrounded by a stone railing. Round the drum was an open passage for circumambulation, and the whole was enclosed by a massive rail with gates on four sides." We were curious to see how a dome was constructed in India at this early period, and referred to the plan and section given by Fergusson. It was found to be nothing more than outward appearance. The structure has a solid core of brick, laid in mud, with the exterior surface lined with stones having their faces depressed. True domes were not constructed in India until after the Muhammadan conquest.

Sculpture was lavished upon the stone railings and gateways, but always keeping in remembrance wooden construction; and even at the present day true wooden construction of these features can be met with in the villages of Rajputanā. The carving in these early Stūpas is decidedly, according to Vincent Smith, influenced by the Alexandrine school of sculpture, and he asks the reader to compare Professor Gardner's description of that sculpture with the published plates illustrating the Sanchi reliefs.

Græco-Roman influence was continued into and developed in the Kushan period, A.D. 50-350. The influence was strongest shortly before the destruction of Palmyra in A.D. 272, when the Indian kingdoms were in active commercial and occasional diplomatic relations with the Roman Empire; consequently "Indian Buddhist sculpture in the Punjab is often hardly distinguishable from contemporary pagan works at Palmyra or Christian works at the Catacombs." Even the Corinthian capital in its most florid form is to be found.

The principal examples fall under two influences—the Gandhāra, which seems to have come westward, and the Amarāvati, which probably reached India by way of the sea, the former representing the usual style of the Græco-Roman sarcophagi, the latter an adaptation of the Antonine development of the Alexandrian art. These types of sculpture and the early cave temples, with their interesting façades, are clearly described.

By about the fifth century the "Græco-Roman"

forms have passed, and a national type has been evolved. This is called the Gupta style, which embraces from A.D. 319 to 520, and is named from the then principal ruling dynasty. The same general character of the temples at this period prevailed all over Hindustan, and continued with modifications to the Muhammadan conquest.

Columns were a great feature in the internal design: the shafts were round or of sixteen or more sides, pilasters were ornamented upon them standing upon high square bases, and sometimes a surbase. The capitals were richly foliated, the foliage falling down from the four corners. The spires were simple in outline, and rose vertically at first, and curved inwards towards the summit, which was always capped by a large circular fluted disc supporting a vase, whilst the surface of the tower was covered with a peculiar sort of horseshoe diaper. The elaborate storied towers were of later date. The plan had developed into a nave and side aisles, sometimes double, with windows lighting the aisles, which were impossible with the rock-cut chapels. The *cella* for the image was given a semicircular base, also separated from the outer wall by the continuation of the aisles in the passage for circumambulation: this passage also was lighted from without. In front was a porch, and round the whole was a raised verandah on square pillars and plain bracket capitals.

The southern portion of India, from the sixth or seventh century, developed a somewhat different type, known as Dravidian. One of the best known groups of monuments is that of the Māmallapuram Rathis, or "seven pagodas," on the sea shore, to the south of Madras, and the rock-cut example at Ellora. Generally speaking, in this style the shrine is quite insignificant, while each subsequent court surrounding it is larger and more decorated than the preceding one.

The mosques of the Muhammadan conquerors were at first, A.D. 1200-1220, constructed of the materials of Hindu and Jain temples, sometimes with comparatively slight alterations, such as, to a colonnade of a temple court, little more was added than a wall on the west side fitted with mihrābs and kiblars, and the removal of the idol shrine. In other instances they demolished the temples, but re-used the materials by placing column above column (in some cases even three tiers), thus obtaining greater height.

The arches to these early mosques which the Muhammadans seem to have insisted upon are built after the system of the Hindu domes, viz.—of horizontal courses as far as practicable, and then closed by long slabs meeting at the apex—an evidence that the workmen were Hindus. Early in the fourteenth century the builders had discarded the imitation arch and had learned to construct true arches. Their architecture had now developed into a new and complete style of its own. Those interested in this exquisite development of archi-

itecture could not do better than refer for information to these pages. The finest museums and mosques were erected between the fourteenth and the middle of the seventeenth centuries.

Some description of ordinary domestic architecture should perhaps have been included in this chapter; but, nevertheless, in spite of this slight omission, we would recommend those who consult the books enumerated in the bibliography at the end of the chapter to refer to the preceding pages and obtain there the latest information on the particular style desired.

ARTHUR E. HENDERSON, R.I.A.

## LEGAL

### Architect's Fees: Contract not under Seal. Liability repudiated.

At Exeter, on 11th October, a case was heard before Judge Lush Wilson in which an architect, Mr. Charles Cole, of Exeter, claimed from the Topsham Parish Council £16 17s. 1d. for work done during the years 1905 to 1907. The defense was that no contract was entered into by the Council under seal executed at a meeting of the Council pursuant to the Local Government Act, 1894. It appeared that the Council proposed to make a road round the sea-front, and Mr. Cole was instructed to prepare plans and specifications. He did so, and subsequently the Council wanted to slightly alter the plans, and provide for a road of seventy feet instead of thirty-six feet. Mr. Cole altered his plans accordingly. The estimated cost was £1595, and the architect charged £16 17s. 1d., about 1½ per cent. The Council offered him £10, which he refused.

Counsel for the defendants, in setting up the plea that no contract was entered into under seal, stated that they were bound to make this defence. A sub-committee had been appointed; they had conferred with Mr. Cole, and then the plans were prepared and submitted to the County Council. Although the work was done in 1905, Mr. Cole did not send in his bill till April 1907, and the members who then composed the Council were not the same as in 1905. They were therefore in an awkward position, for they stood a chance of being surcharged. The plan was for making a road, and the Parish Council had no power to make a road.

The point was then argued as to whether the Parish Council had power to do the work, and it was stated for the defendants that the County Council refused the Parish Council leave to borrow the required amount, and that this showed that the latter body were attempting to do something *ultra vires*.

Counsel for the plaintiff contended that the improvement could be brought under the head of recreation ground or public walk, in the matter of which a Parish Council had power.

The Judge, having reviewed cases on the point, said he was sorry he could not give effect to the contention of the plaintiff's counsel. It seemed to him a very iniquitable thing. Here were certain people connected with the Parish Council calling in a gentleman, and giving him a lot of trouble, and then, when the time came to pay, they decided the work was not within the scope of their powers. He was there, however, to decide the law, and he was satisfied that the work required was not within the jurisdiction of the Parish Council, and he was bound to give judgment for defendants. Mr. Cole had no claim against the Parish Council, but he would say nothing about other people.

# INDEX TO VOLUME XV. THIRD SERIES.

## A

- Abbey, Edwin A.: *Classic Architecture at Washington*, 341.
- Aetion Council Office's Competition: 6, 114.
- Adams, Maurice B.: Revision of Charter and By-laws, 101; Recent Fire Legislation for London, 133; Honours Examination in Architecture, 175; Work of the late G. F. Bodley, 269; Assessing of Competitions, 301; The Annual Report, 468.
- ADDRESSES—Opening Address, 1; Address to Students, 213; Gold Medal Addresses, 397.
- ALLIED SOCIETIES—
- AMSTERDAM: Building Mortars (H. Gordon Nicol), 273.
- BIRMINGHAM: ARCHITECTURE AS A FINE ART (J. L. Hall), 239; THE SYMBOLISM OF FRENCH SCULPTURE IN THE THIRTEENTH CENTURY (A. S. Dixon), 285.
- BRISTOL SOCIETY OF ARCHITECTS: Bristol University and Chair of Architecture, 363.
- CAPE INSTITUTE: Allied with R.L.B.A., 14.
- LEICESTER AND YORKSHIRE: CHRIST-CHURCH PRIORY, HAMPSHIRE, 208, 367; MATERIAL (Paul Waterhouse), 457; ENGLISH AND ITALIAN GARDEN ARCHITECTURE (Thomas H. Mawson), 485.
- NORTHERN ASSOCIATION: Mr. Arthur H. Plummer's Inaugural Address, 114; Annual Report, 456.
- ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND: Resolutions re New Irish Universities, 456.
- SHEFFIELD: Formation of Department of Architecture at Sheffield University, 116.
- Allied Societies' Representatives on the Council: Election of, and Votes Polled, 484.
- Alma-Tadema, Sir Lawrence: Speech at Annual Dinner, 505.
- AMERICAN SCULPTURE, NOTES ON, CHIEFLY IN RELATION TO GOTHIC WORK (E. W. Hudson).—Use of Gothic Style increasing, 605; Cathedral of St. John, Morningside Park, *ib.*; Sculptor entrusted with the Modelling, *ib.*; Mr. Borghum's Models for Statuary, 606; Material employed, *ib.*; Scheme for Outside of Eastern Chapels, *ib.*; Marked Originality of Mr. Borghum's Work, 608; Sketch of his Career and Productions, *ib.*; Model for Sheridan Statue, 612; Models for Princeton University, *ib.*; Other Sculptors' Work in Gothic Architecture, *ib.*; In Classic and Renaissance, 614; Groups for the Harrisburg Capitol, 615; Jefferson Davis Memorial at Richmond, Va., *ib.*; Commercial Combination, *ib.*; American Sculpture in Paris, *ib.*; Cult of the Hildens, *ib.*; Poverty of our English Sculpture, 616.
- Amiens Cathedral and Mr. Goodyear's "Refinements." See ARCHITECTURAL REFINEMENTS.
- Ancient Monuments, Preservation of, 80, 362, 508, 538, 539, 582, 584.
- Anderson, J. Macvicar: Revision of Charter and By-laws, 99 *sqq.*
- Angel, H. J.: Revision of Charter and By-laws, 100; Roads (review), 621.
- Annual Dinner, at Hôtel Métropole: List of those Present, 593; Speeches by Sir Aston Webb, 504; Stuart M. Samuel, M.P., *ib.*; Sir Lawrence Alma-Tadema, 505; Sir Schomburg McDonnell, *ib.*; The President, 506, 508; Leonard Stokes, 507; Cass Gilbert, *ib.*
- Annual Reports of Council and Standing Committees, 383; Discussion on, 402.
- Appointments, Honours and, 16, 79, 276, 508.
- Architects and the Territorial Army, 479.
- Architects' Benevolent Society: Annual Report, 330; Concert for, 413.
- Architects' Remuneration: The Institute Scale, 277.
- Architects, Technical Bureau for, 140, 654.
- Architectural Association: Annual Dinner, 384.
- Architectural Composition (review), 501.
- Architectural Copyright, 539, 617.
- ARCHITECTURAL REFINEMENTS: I. A REPLY TO MR. BILSON (Wm. H. Goodyear).—Title of Mr. Bilson's Paper, 17; Cause of its Inspiration, *ib.*; Limitation of Field of Inquiry, *ib.*; Mr. Bilson's Alleged Bibliography, 18; Starting-point for Examination of Mediaeval Asymmetry, *ib.*; Architectural Investigation condemned on One Assertion, *ib.*; Phenomena not Imaginary or Accidental, 19; Mr. Bilson's Classification, *ib.*, 25; Perspective Illusions in Mediaeval Architecture, 29; Observations ignored by Mr. Bilson, *ib.*; Mr. Ruskin on Variations from Symmetrical Regularity, 21; Irregularities of Arcades in Italian Churches, *ib.*; M. Choisy on Asymmetries, 22; Mr. Bilson's Omissions, 23; The Facade of Pisa Cathedral, 24; S. Ambrogio at Genoa, *ib.*; Measurements of Spiral Staircase of Leaning Tower of Pisa, *ib.*; Great Stringcourse of Pisa Cathedral, 25; "Oblique" and "Deflected" Plans, 26; Suggestion re Deflected
- Northern Choirs, 27; Optical Illusions and Variation from Symmetry, *ib.*; Analogies suggested by Oblique Plans, 28; Skill of Mediaeval Masons, *ib.*; Accurate Surveying of "Complicated" Plans, 29; A Curious Question raised, 30; Story of the Architect of Metz, *ib.*; Contention re Deflections of Alignment, *ib.*; Topic of Horizontal Curves, 31; The Edinburgh Exhibition, *ib.*; Vertical Curves, 32; Horseshoe Form in Nave Construction, *ib.*; General Scepticism anticipated, 33; Vaulting Thrust at Amiens, 34; Cathedral of Trani, *ib.*; Abutments and Outward Slopes, 35; Repairs and Accidents at Troyes, *ib.*; The Verticals of Notre-Dame, *ib.*; Examples of Outward Divergence, 36; Nave Vaulting of Saint-Reml, 37; "Out of Plumb," *ib.*; Contention re Widening System, 40; Mr. Bilson's Error in Quoting Beauvais, *ib.*; Iron Cable in Triforium at Amiens, *ib.*; "Sighting on a Plumb-line," 41; Offhand Estimate of Divergences at Amiens, 43; Drawings of the Southern Crossing Piers, *ib.*; Accuracy of Other Drawings, 45; Measurements of Amiens Nave and Crossing, *ib.*; Spreading of Amiens Nave, 47; Transepts at Amiens, 48; M. Durand's Views, *ib.*; Certificates of Cathedral Architects, 49; Three Distinct Optical Illusions, 51.
- II. AMIENS CATHEDRAL AND MR. GOODYEAR'S "REFINEMENTS": A REJOINER (John Bilson), 84.
- III. CORRESPONDENCE: Edward S. Prior, 79, 180; C. Enlart, 142; F. W. Deas, *ib.*, 211; F. M. Simpson, 210; G. A. T. Middleton, 211; Wm. H. Goodyear, 211, 284.
- Architectural Sketches, Exhibition of, 78.
- Architectural Students, Books recommended to, 617.
- Architectural and Topographical Society, 454.
- ARCHITECTURE, A THREEFOLD ASPECT OF: TRADITION, CHARACTER, IDEALISM (H. Heathcote Statham).—The Great and Permeating Tradition, 365; The Expression of Architectural Dignity and Refinement, 366; Classic Order Buildings, *ib.*; Vienna Parliament House, 367; German Parliament House, *ib.*; Musée Galliera, Paris, *ib.*; Grand Palais des Arts, Paris, 368; British Museum "Useless Colonnades," *ib.*; The Petit Palais, *ib.*; Pylons on Bridge across the Seine, 369; Wall-columns of the Colosseum, *ib.*; Examples of Use of the Columnar Order, *ib.*; Definition of "Character," 370; Various Buildings contrasted, *ib.*;

- Multiplicity of Detail ineffective, 372; Treatment of Towers, 373; Character in Spires, 374; Design indicating Purpose of a Building, *ib.*; Lack of Distinction in Government Offices, 375; Relation of Edifice to the Site, 376; Combination of Classical Tradition with Character, 378; A Remarkable Study for the first Liverpool Cathedral Competition, *ib.*; The Effort for "Originality," 379; Architectural Idealism needed, *ib.*; German Architects as Teachers, 380; Possibility of Freedom of Architectural Ideal, 381.
- Discussion:* Sir Aston Webb, 382; John Slater, 383; The President, *ib.*; The Author, *ib.*
- Architecture, Advancement of British (correspondence), 284.
- ARCHITECTURE AS A FINE ART [J. L. Ball].—Purpose of the Existence of Architectural Societies, 239; Definition of Architecture, *ib.*; Proportion the Sole Method of Architecture, 240; Proportions of Greek Architecture, 241; Influence of Custom and Tradition, 242; Wooden Architecture, *ib.*; Consideration of Gothic Architecture, *ib.*; Uniformity the Standard of Building Excellence, 243; The Stone Vault, *ib.*; Towers and Spires, *ib.*; Development of the French Cathedral Plan, 244; Conscious and Unconscious Art, *ib.*; Quality of Picturesqueness, 245; Relation of Architecture to Construction, *ib.*; Architecture the Art of Constructional Idea, 246; The Arch and its Abutment, 247; Relation of Architecture to Nature, *ib.*; The Law of Gravitation, 248; Egyptian Architecture, *ib.*; The Law of Growth, *ib.*; The Flamboyant Churches of France, *ib.*
- Architecture of Greece and Rome (review), 176.
- Architecture, Honours Examination. See HONOURS EXAMINATION.
- Architecture, Proposed Diploma in, at Cambridge, 237, 411.
- Architecture, The Public and, 619.
- Art Standing Committee, Report of, 394; Planning of Town Extensions: Beverley Minister: Crosby Hall: Waterloo Bridge, 391; Post Office and other Buildings, South Kensington: Stewkley Church: Illuminated, &c., Advertisement Signs, 395; Election of, and Votes Polls, 478, 484; Council Appointments, 534.
- Arthur Cates Prize, 206, 225, 272, 359.
- Asphitral Prize, 111, 207, 359.
- ASSASSINING OF COMPETITIONS.—Resolutions and Discussion on, 399; Herbert W. Willis, 299, 303, 304; A. W. S. Cross, 301, 304; George Hubbard, 301 *sq.*; F. Chatterton, 301; H. Heathcote Statham, 301; Maurice B. Adams, 301; The President, 301 *sq.*; G. A. T. Middleton, 301; Edmund Winperis, 301; Edwin T. Hall, 302, 303; Wm. Woodward, 303; A. R. Jemmett, 329.
- Associates, Election of, 105, 180, 308, 484.
- "At Homes," The President's, 228, 411.
- Athens, British School at, 273.
- Auditors' Report, 402.
- Auditors 1908-9, Election of, 478, 484.
- B**
- Back to the Back Land (review), 280.
- Baines-Hewitt, F. T.: Dry-rot in Timber, 512.
- Ball, J. L.: ARCHITECTURE AS A FINE ART, 239.
- BANGOUR VILLAGE ASYLUM (Hippolyte J. Blanc).—Better Conditions for the Insane, 309; Necessity of Classification, *ib.*; Methods of Treatment, *ib.*; Two Types of Asylum Contrasted, 310; Site of Bangour Asylum, *ib.*; Plan submitted, 311; Disposition of Various Buildings, *ib.*; Expense entailed to Render Estate Suitable, 312; The Drainage System, *ib.*; Heating and Ventilation, 313; Accommodation of Homes, 314; Water-closets and Lavatories, *ib.*; Bathrooms and Steam Supply, *ib.*; Window Openings, *ib.*; Power-station and Workshops, 315; The Bakery, 316; Kitchen and Stores, *ib.*; Wash-house and Laundry, 317; Female Industrial Colony, *ib.*; Farmstead, *ib.*; Male Industrial Colony, 319; Medical Superintendent's Residence, *ib.*; Nurses' Home, *ib.*; Hospital, 320; Mortuary, *ib.*; Closed Villas, *ib.*; Administrative Block, *ib.*; Recreation Hall, 321; General Observations, *ib.*; Advantages of the Cottage System, 322; Material of Buildings, 323; Cost of Recently Erected Asylums, *ib.*; Cost of Bangour Asylum, *ib.*; Architect's First Duty in Designing an Asylum, *ib.*
- Discussion:* George T. Hine, 324; Wm. Woodward, *ib.*; S. Perkins Pick, *ib.*; Matt. Garbutt, 325; The President, 326; The Author, *ib.*
- Berry, W. H. Atkin.: Safety Kites for Theatres and other Places of Entertainment, 170; The late Frank Garfield Johnson, 230; The Annual Report, 406, 408.
- Hilson, John: AMIENS CATHEDRAL AND MR. GOODYER'S "REPERIMENT," 84; Medieval Bricks, 179.
- Blanc, Hippolyte J.: BANGOUR VILLAGE ASYLUM, 309, 326.
- Blomfield, Reginald.: Prizes and Studentships, and Address to Students, 226; Proposed Diploma in Architecture at Cambridge, 237.
- Board of Architectural Education, Report of, 398; Standard Examples of Architectural Details for Students, 537.
- BODLEY, GEORGE FREDERICK [F. M. Simpson].—Two Great Works, 145; Introduction to Architecture, *ib.*; Partnership with Thomas Garner, 146; His Early Churches, *ib.*; St. Augustine's, Pendlebury, *ib.*; Church of Holy Cross, Staffordshire, 148; Love for Gothic Architecture, *ib.*; Principal Later Churches, 149; His Greatest Disappointment: Truro Cathedral, *ib.*; Success in Competitions, 150, 152; Domestic Work, 151; Delight in Decoration, 152; Distinguished Collaborators, 152; Reason for Excellence of his Work, 154; Limitation of Pupils, 156; Travel and Study, 156; Retentive Memory, *ib.*; Personal Characteristics, *ib.*; Musician and Poet, 157; Last of the Band of "Goths," 158.
- CORRESPONDENCE: Maurice B. Adams, 209; G. A. Humphreys, *ib.*
- Bodley, George Frederick: obituary notice, 13, 79; Memoir, 145.
- Bolton, Arthur E.: The Woodcarver at St. Paul's, 306.
- Bond, Francis: Towers and Spires (review), 278; Church Furniture (review), 331; On the English Origin of the French Flamboyant, 356.
- Bricks, Early, 111, 179.
- BRIDGES OF LONDON, THE ARCHITECTURE OF [Prof. Beresford Pile].—Architectural Assets of London, 425; Medieval Monuments, *ib.*; Products of the Victorian Art Movement, 426; Contrast of Foreign Capitals, *ib.*; Glory of River Thames, *ib.*; Number of London Bridges, 427; Two Great Architectural Works, *ib.*; Bridge-building Eras, 428; A Pair of Great Masonry Bridges, 429; Review of Results of Architectural Faith and Heresies on Olden Bridge-builders, *ib.*; Succession of Iron to Inheritance of Stone, 430; Street Bridges, *ib.*; Feasibility of Vast Bridge Design for Masonry, 431; Additional Bridge Proposed, *ib.*; Suitable Sites, 441; Tower Bridge, *ib.*; London Bridge, *ib.*; Cannon Street Railway Bridge, 442; Southwark Bridge, *ib.*; St. Paul's Railway Bridge, *ib.*; Blackfriars Bridge, *ib.*; Waterloo Bridge, 443; Charing Cross Railway Bridge, *ib.*; Westminster and Lambeth Bridges, *ib.*; Vauxhall Bridge, 444; Grosvenor Road Railway Bridge, *ib.*; Chelsea Suspension Bridge, *ib.*; Albert and Battersea Bridges, *ib.*; West London Railway Bridge, *ib.*; Wandsworth Bridge, *ib.*; Putney Bridges, 445; Hammermith Bridge, *ib.*
- Discussion:* H. Heathcote Statham, 445; W. E. Riley, 446; W. C. Copplethwaite, 447; Henry T. Hare, *ib.*; The Author, 448.
- Bristol University, Proposed, and Chair of Architecture, 363.

British Architecture, Advancement of. 284.

Brodie, C. H.: Revision of Charter and By-laws, 99; How to Estimate (review), 234; Light and Air (review), 542.

Bryan, H. Dare: The late George Frederick Bodley, 14.

Building Contracts: Builder Providing Labour only, 541.

Building Material, Fire Tests on, 451.

Building Mortars, 273, 305.

Building Trades Exhibition Poster, 652.

Bureau, Technical, for Architects, 110, 654.

Burlington-Devonshire Collection, 390.

Barnet, J. J.: The Present Condition of St. Paul's Cathedral, 70, 77.

BUSINESS MEETINGS.—Revision of the Charter and By-laws, 91; Honours Examination in Architecture, 173; Assessing of Competitions, 299; Annual Elections, and Votes Polled, 183. See also CHARTER AND BY-LAWS; HONOURS EXAMINATION; and ASSESSING OF COMPETITIONS.

By-laws, Revision of. See CHARTER AND BY-LAWS.

BYZANTINE CHURCHES, ARCHITECTURAL INDETERMINATES IN [Kensington Quadrant], 90.

Byzantine Mosaics, Discovery of, 413.

# C

Calvin Monument at Geneva, Proposed, 385, 453, 511, 653.

Cambridge, Proposed Diploma in Architecture at, 237, 411.

Cape Institute of Architects, 14.

Carrie, W. D.: Preservation of Crosby Hall, 16.

CECALI, SICILY, THE CATHEDRAL CHURCH OF [George Hubbard].—Importance to Architectural Students, 333; The Conquest of Sicily by the Normans, *ib.*; Adoption of the Pointed Arch, 334; Churches Built by the Normans, *ib.*; Position of Cefalù, 336; Buildings of Ancient City, *ib.*; Legend relating to Building of the Cathedral, *ib.*; Identity of the Founder, *ib.*; General Plan, *ib.*; Its Gothic Peculiarities, 337; First Examples of Pointed Vaulting, *ib.*; The Cefalù Vaulting, 338; Some Rare Characteristics, *ib.*; The Special and Predominant Feature, *ib.*; Capitals of the Pillars, *ib.*; Mosaic Work, *ib.*; Grandeur of the Cefalù Christ, 341; Enrichment of the East Front, 342; Preservation of the Original Interior, 343; Sparsity of Windows, *ib.*; West Wall and Porch, *ib.*; Ancient Inscriptions, 344 *seq.*; Roof of Nave, 344; Nationality of Workmen Employed, 345; Masons' Marks, *ib.*; Position of Cefalù in History of Gothic Architecture, 347; Renaissance Altar and Altar-piece, 348; Tombs

of Norman Kings, *ib.*; An Authority on the Sicilian Pointed Arch, *ib.*; Historical Instance of Connection between Norman Provinces, 349; Special Points of Interest, 350.

Discussion: W. Howard Seth-Smith, 351; Edmund Kirby, 352; Mart. Garbutt, 353; R. Phené Spiers, 354; Henry T. Hare, *ib.*; The Author, 355, 387.

Champaney, Basil: Proposed Diploma in Architecture at Cambridge, 237.

Character in Architecture. See ARCHITECTURE, A THRETFOLD ASPECT OF.

Charles, Ethel: Medieval Castles of Germany (review), 386.

CHARTER AND BY-LAWS, REVISION OF.—Proposals of the Council, 91 *seq.*; Amendments: Class of Licentiates, 99; Amendments by G. A. T. Middleton, 98; Voting Rights of Associates, 100; Note on, 107.

Discussion: Edwin T. Hall, 99 *seq.*; J. Macvicar Anderson, 99 *seq.*; G. A. T. Middleton, 99 *seq.*; C. H. Brodie, 99; H. Hardwicke Langston, 100, 101, 105; R. Stark Wilkinson, 100; R. J. Angel, *ib.*; Maurice B. Adams, 101; J. Nixon Horsfield, *ib.*; George Hubbard, 102; W. Howard Seth-Smith, *ib.*; Sir Aston Webb, *ib.*; W. R. Davidge, 103; A. H. Reid, 104, 105. Chatterton, F.: Assessing of Competitions, 301; Modern Buildings (review), 413.

Cheetham, F. H.: The Woodcarver at St. Paul's, 541.

Chisholm, R. F.: Safety Exits for Theatres, 172.

CHRISTCHURCH PRIORY, HAMPSHIRE: THE CHURCH OF THE HOLY TRINITY, TWYNHAM [G. J. Coombs].—Situation, 547; Foundation, &c., *ib.*; Legends connected with its History, 558; Demolition of Original Church, *ib.*; Dissolution of the Monasteries, *ib.*; History of Present Building: Norman, 560; Inception by Ralph Flambard, *ib.*; Traditional Plan, 561; The Crypts, *ib.*; Value of the Tithes, 562; Features of the Nave, *ib.*; Problem regarding Building of Tower, 563; The Triforia, *ib.*; Features of the North Triforium, 564; The Aisles, *ib.*; The Transepts, *ib.*; Position of Sacristan's House, *ib.*; Removal of Stone Vaulting, 566; Firmments of the Transepts, 567; Early English: Building Operations, *ib.*; Insertion of Windows, *ib.*; Vaulting, *ib.*; Two Early English Chapels, 568; The Rostery, *ib.*; The North Porch, 569; Decorated: The Rood Screen, 570; The Stone Reredos, *ib.*; Subject of Sculpture of Reredos, 572; Perpendicular: The Lady Chapel and Tomb, *ib.*; St. Michael's Loft, 573; Exterior of Eastern End, *ib.*; The Western Tower, 574; Present Nave Roof, 575; The

Choir, *ib.*; Fragments of Mediaeval Stained Glass, 577; Choir Aisles, *ib.*; Four Chantries, 578; The Choir Stalls, *ib.*; Later Work and Restorations, 580; Materials used in the Building, 581.

Note on, 208.

CHRONICLE.—Opening General Meeting, 13; The late George Frederick Bodley, R.A., Royal Gold Medallist, *ib.*, 79; The New Institute Medal, 14; Allied Society at the Cape, *ib.*; The Statutory Examinations, 16; National Registration of Plumbers, *ib.*; Crosby Hall Preservation Scheme, *ib.*, 111, 140, 230, 274, 384, 479; Honours and Appointments, 16, 79, 276, 508; The President, 78, 449; Mr. Macartney's Paper on St. Paul's, 78; The County Hall Competition, 78, 228; Preservation of Winchester Cathedral, 78, 175, 303; Exhibition of Architectural Sketches, 79; The late M. Emile Trélat, *ib.*; Liverpool Cathedral, *ib.*; The Revised Charter, 107; Elections to the Fellowship, *ib.*; Resignation of the Secretary, *ib.*, 139; The November Examinations: Results and Passes, 108; The Ashpitel Prize, 111; Colonial Examinations, *ib.*, 456; The late William Alexander Longmore, 112; The Plenum System of Heating and Ventilating, *ib.*; H.M. Office of Works and Reinforced Concrete, 137; The Flashlight Advertisement Nuisance, 140, 360; Eighth International Congress of Architects, Vienna, 1908, 140, 229, 528, 449; A Technical Bureau for Architects, 140, 654; The Parting of the Ways, 173; Honours Examination in Architecture, *ib.*; The Annual Exhibition of Prize Drawings, 174; The Excavation of Herculaneum, 176; Société Centrale des Architectes Français, *ib.*; The late Edward George Hayes, *ib.*; Mr. Oldrieve's Paper and Illustrations, 205; The Prizes and Studentships, 1908; The Council's Deed of Award, *ib.*; Dr. Evans's Work and the Croton Exploration Fund, 207, 509, 584; Scottish Historical Monuments, 208; The late John Salmon Quilter, *ib.*; The President's "At Homes," 228, 411; The Prizes and Studentships: Exhibition, 228; The New Secretary R.I.B.A., *ib.*; Architects and the Prevention of Corruption Act, 1906; Counsel's Opinion, 229; Vanishing London, 230; The late E. L. Galizia, 231; Some Grinding Gibbons Carving, *ib.*; The Proposed Diploma in Architecture at Cambridge, 237, 411; Mr. Francis Fox's Paper, 272; The Prize Drawings for Exhibition in the Provinces, *ib.*; The British School at Athens, 273; Building Mortars, *ib.*; The late Edward William Mountford, 274;

- The late John Barnes Colson, 275; The late Sir James Knowles, 276; Sessional Paper for Meeting of 13th April, 299; The Royal Gold Medal, 1908, *ib.*, 327; Assessing of Competitions, 299; The International Competition for the Peace Palace at The Hague, 304; Motor Experiments, 305; The International Drawing Congress, 327; Transactions of the 1906 Congress, 329; The late Mr. D. R. Dale: District Surveyors, *ib.*; The late George Allen Mansfield, *ib.*; The late Frank Garfield Jackson, 330; Mr. W. J. Locke, *ib.*; The Woodcarver at St. Paul's, *ib.*; Prizes and Studentships, 1909, 359; London County Council and the R.I.B.A., *ib.*; The late Duke of Devonshire—the Burlington-Devonshire Collection, 300; The Housing and Town Planning Bill, 361, 450; Protection of Ancient Monuments, 362, 638; The Sister Arts, 363; Proposed Bristol University and Chair of Architecture, *ib.*; The Shakespeare Memorial, *ib.*; The late Stephen Poulson Rees, 364; The Architectural Association, 384; The New County Hall, *ib.*; Proposed Calvin Monument at Geneva, 385, 453, 511, 653; The Baptistery of Florence, 385; The late C. F. Reeks, 386; Annual Elections: New Nominations, 410; Special Elections to Fellowship, 411; The Concrete Institute, 412; Fire-resisting Properties of Reinforced Concrete, *ib.*, 452; Regulations for Reinforced Concrete Construction, 412; Architects' Benevolent Society, 413; Discovery of Byzantine Mosaics, *ib.*; The Annual Elections: Circularising Members, 449; Exhibition of M. Hulot's Prix de Rome Drawings, *ib.*; Suggested Minister of Fine Arts, 450; Public Offices Sites Extension, 451; Southwark Bridge, *ib.*; Fire Tests on Building Material, *ib.*; Failure of a Reinforced Beam, 453; Mild Steel Embedded in Concrete, *ib.*; The Architectural and Topographical Society, 454; Screens and Bookshelves, *ib.*; Municipal Exhibition, 455; The late J. J. Stevenson, *ib.*; The Annual Elections, 478; The Ballot for Fellowship, *ib.*; Architects and the Territorial Army, *ib.*; L.C.C. School of Building, 479; The late Julien Guadet, *ib.*; The Church of Saint-Séverin, Paris, 480; The Royal Gold Medal, 502; Mr. Collett's Retirement from the Presidency, *ib.*; The Annual Dinner, 503; An Egyptian Appointment for an Architect, 508; Proposed New Science Museum, *ib.*; Additional Law Courts, *ib.*; Historical Monuments in England, *ib.*; Hunt v. Acton Urban District Council, 509; Sir Caspar Purdon
- Clarke and the New York Metropolitan Art Museum, *ib.*; Church Building, 510; The Midsummer Examinations: Results and Passes, 533; Board of Architectural Education: Standard Examples of Architectural Details, 537; Alterations in the Examinations, *ib.*; Architectural Course at Sheffield University, 538; Glastonbury Abbey, *ib.*; Royal Commission on Ancient Monuments, 539, 582; A Correction, 539; Architectural Copyright, *ib.*, 617; The late Albert Edward Gough, 539; The late Francis Haslam Oldham, 549; The late Alfred Darbyshire, *ib.*; International Competitions, 582; London Building Acts: Proposed Amendments re Thickness of Walls, 583; The Institute Contract Form, *ib.*; Council Appointments, 584; Vacant London District Surveyorships, *ib.*; Welsh Historical Monuments: Royal Commission, *ib.*; American Architecture, 586; Mr. Medland Taylor (of Manchester): a Correction, 587; Arrangements for the Session, 1909-09, 617; Books recommended to Architectural Students, *ib.*; The Public and Architecture, 619; The Right Use of Museums, 620; The Royal Sanitary Institute, *ib.*; School of Art Wood-carving, 621; The late L. W. Green, *ib.*; London Building Act 1894: Amendments 1908, 651; Architectural Treatment of Reinforced Concrete, 652; Building Trades Exhibition Poster, *ib.*; The late David Gostling, 653; The late Leopold Eidlitz, *ib.*; Proposed International Memorial to Augustus Saint-Gaudens, 654; The Examinations, *ib.*
- Church Building, 510.  
Church Furniture (review), 301.  
Clarke, Sir Caspar Purdon: Work at the New York Metropolitan Art Museum, 509.  
Clarke, Max: Safety Exits for Theatres and other Places of Entertainment, 171, 172; Foundations, 271; The Annual Report, 406, 409.  
Classic Architecture at Washington, 541, 586.  
Codd, John: Preservation of Holyrood Chapel, 80.  
Cole, Charles, c. Topstam Parish Council, 656.  
Cole, R. Langton: Old Flemish Towns (review), 624.  
Collett, Thomas Edward, President: Opening Address, I; Safety Exits for Theatres and other Places of Entertainment, 169; Honours Examination in Architecture, 174 *sqq.*; "At Homes," 228, 411; Foundations, 271; The late Edward W. Mountford, 275; Assessing of Competitions, 301 *sqq.*; The Designs for Peace Palace at The Hague, 304; Bangour Village Asylum, 326; "The Sister Arts," 363; A Threefold Aspect of Architecture, 383; The Annual Report, 402 *sqq.*; Retirement from Presidency, 502.  
Colonial Allied Societies: Representation on the R.I.B.A. Council, 540.  
Colonial Examinations. See EXAMINATIONS.  
Colson, John Barnes: obituary notice, 275.  
COMPETITIONS.—New County Hall 78, 228, 299, 384; Pontypridd Union Offices, 277; Peace Palace at The Hague, 304; Jury System of Judging, 329; Tiverton Schools, 332; Ilford Emergency Hospital, 414; Acton Council Offices, 6, 414; Reformation Memorial at Geneva, 453, 511, 653; Resolutions re International Competitions, 582; Reinforced Concrete—The Builder Competition, 652; Building Trades Exhibition Poster, *ib.* See also ASSESSING OF COMPETITIONS.  
Competitions Committee: Ilford Emergency Hospital, 414; Acton Council Offices, *ib.*  
Concrete (review), 622.  
Concrete Institute, The, 412.  
Concrete, Mild Steel embedded in, 453.  
Concrete, Reinforced. See REINFORCED CONCRETE.  
Coombs, G. J.: CHURCHCHURCH PRIORY, HAMPSHIRE, 208, 557.  
Copperthwaite, W. C.: Architecture of the Bridges of London, 447.  
Copyright, Architectural, 539, 617.  
Corlette, Hubert C.: Representation of Colonial Allied Societies on the Council, 540.  
Corrupt Practices Act 1906: Points affecting Architects, 229.  
COUNCIL, THE: REVISION OF CHARTER AND BY-LAWS, 91; ANNUAL REPORT, 1907-1908, 389; Nominations to, 410; Election of, and Votes polled, 483.  
County Hall Competition. See LONDON COUNTY COUNCIL.  
Crace, J. D.: A FEW DATA IN FRANCE, 470; Specifying Decorative Work (review), 623.  
Cretan Exploration Fund: Dr. Evans's Work, 207, 509, 581.  
Crosby Hall: Preservation Scheme, 16, 111, 140, 230, 273, 385, 479.  
Crosby, A. W. S.: Assessing of Competitions, 301, 304.

## D

- Dale, D. R.: obituary notice, 329.  
Darbyshire, Alfred: obituary notice, 540.  
Daumet, M. Honoré: Nomination and Election as Royal Gold Medalist 1908, 299; Address on receiving Royal Gold Medal, 500; Visit to England, 502.  
Davidge, W. R.: Revision of Charter and By-laws, 103.

- Davison, T. Raffles, Exhibition of Architectural Sketches by, 79.  
Dawber, H. Guy: CRITICISM OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS, 219.  
Deas, F. W.: Architectural Refinements (correspondence), 142, 241.  
Decorative Work, Specifying (review), 523.  
Devonshire, Duke of: obituary notice, 360.  
Dircks, Rudolf: The Eighth International Congress at Vienna, 480; Architectural Copyright, 539.  
District Surveyors, Examination for, 16; London County Council and Appointment of, 329; Vacancies in London, 584.  
Divers, Use of. *See* FOUNDATIONS.  
Dixon, A. S.: THE SYMBOLISM OF FRENCH ARCHITECTURE IN THE THIRTEENTH CENTURY, 285; SOURCES OF INSPIRATION IN MODERN ART, 415.  
Dry-rot, Report on (Paul Ogden).—Short Definition of Dry-rot, 475; Conditions Favourable to Generation, *ib.*; General Remarks, *ib.*; Prevention, *ib.*; Methods of Eradicating, 477.  
— Some Notes on [F. T. Baines-Hewitt], 512.  
Dunn, Wm.: THE DOME OF ST. PAUL'S, 72, 77; Concrete (review), 622.

## E

- Early Bricks. *See* BRICKS.  
Egyptian Appointment for an Architect, 508.  
Eldlitz, Leopold: obituary notice, 653.  
Elections, Annual: Outside Nominations to Council, 410; Circular referring to, 449; Election of Council and Standing Committees, 478; Votes polled, 483.  
Elections to Fellowship, Recommendations *re*, 107.  
English Church Screens (review), 543.  
English Gardens. *See* GARDEN ARCHITECTURE.  
ENGLISH ROMANESQUE DETAILS, ROMAN-BRITISH PRECEDENTS FOR SOME [C. F. Innocent], 649.  
English Villages (review), 467.  
Enlart, C.: Architectural Refinements (correspondence), 142.  
Essay Medal, The, 205, 220, 359.  
Estimate, How to (review), 238.  
Evans, Dr.: Work in Cretan Exploration, 207, 509, 584.  
EXAMINATIONS, THE: Preliminary, Intermediate, Final, and Special, November 1907 and June 1908; Results and Lists of Passes, 108, 109, 111, 533, 535, 536; Analysis of Failures in the Final, 111, 537; Alterations in, 537; Liverpool Candidates, 651.  
EXAMINATIONS, COLONIAL: Results, 111, 456, 537.  
EXAMINATIONS, STATUTORY: Results, 16.  
Exhibitions: Architectural Sketches, 79; Prize Drawings, 175, 228, 272; The late E. W. Monmouth's Executed Works, 411; M. Huiot's Prix de Rome Drawings, 449, 526; Municipal Building and Public Health Exhibition, 455; The Franco-British, 546.  
**F**  
FAMAGUSTA [George Jeffery].—Cause of its Origin, 625; History: Early Site, *ib.*; Church of St. George the Latin, 626; Foundation as a Walled City, *ib.*; Fall of Acre, *ib.*; Period of Gothic Churches, *ib.*; Under the Lusignan Dynasty, 627; Coronation of Peter II., *ib.*; The Genoese Occupation, *ib.*; The "Mahone," 628; Venetian Occupation, 629; Province of Turkish Empire, *ib.*; Attempts to Recapture the Island, 630; English Administration, *ib.*; Note on Loss of Cyprus in 1571, *ib.*; Description of the Fortifications: The Citadel, 632; Remains of the Medieval Buildings, 633; The Remodelling of 1492, 634; Great Bastion of the "Limassol," 635; The S. Luca Bastion, 636; South Wall Bastions, 637; The Eastern Wall and Arsenal Gate, 638; Round Tower of the Water Gate, *ib.*; Fortresses Designed as Architectural Monuments, 639; The "Diamantino" Tower, *ib.*; The Martinengo Bastion, 640; Designer of the Sixteenth-century Fortifications, 641; History of Early Artillery Fortification, 642; Architectural Decorations, *ib.*; The "Italian Type" of Fortresses, 643; Relief Models of Famagusta, 644; The Harbour of Famagusta, 646; Note on Artillery of the Sixteenth Century, 646; Artillery of the Turks, *ib.*; Discovery of Bronze Cannon, 646 *sqq.*  
Fawcett, W. M.: Address at Ninetieth Anniversary of the Incorporated Church Building Society, 610.  
Fellows, Election of, 105, 180, 308, 411, 484.  
Fellowship, Recommendations *re* Elections to, 107.  
Fellowship Special Elections, 411.  
Final Examination. *See* EXAMINATIONS.  
Finances, 398.  
Fine Arts, Suggested Minister of, 450.  
FINE LITHOGRAPH FOR LONDON, RECENT [Wm. Woodward].—Acts in Force under Metropolitan Board of Works, 117; The Guiding Principle of Legislation, *ib.*; Study of Fire-resisting Materials, 118; London Building Act, 1894, *ib.*; Timber Preservation, *ib.*; Special Regulations for Factories, 119; Fire-escapes, *ib.*; Recommendations by Experts, 120; Factory and Workshop Act, 1901, *ib.*; A Roving Power given to District Councils, *ib.*; Liability of By-laws, 121; The London Building Acts (Amendment) Act, 1905, *ib.*; Efficiency of Precautions in Hotels, *ib.*; "Grandmotherly" Legislation, 122; Duties of Public Authorities, *ib.*; Unsatisfactory Sections of Earlier Acts, 123; Plans to be Submitted to London County Council, *ib.*; Ventilated Lobbies to Staircases, 124; Projecting Shops, 125; The Storage of Inflammable Liquids, *ib.*; Exemptions from the Amendment Act, *ib.*; Protection of Inns of Court, *ib.*; Machinery and Working of the Amendment Act; Meanings of Terms Employed, 126; As Regards the Owner, *ib.*; As Regards the Council, 127; As Regards the Tribunal of Appeal, *ib.*; As Regards the Practice of the Council, *ib.*; The Cubical Extent of Buildings, 128; Important Discretionary Power of Council, 129; Conclusions, *ib.*; Workability of the Act, 130.  
*Discussion:* J. Douglas Mathews, 131; W. E. Riley, *ib.*, 132; S. Hurst Seager, 132, 134; Maurice B. Adams, 133; John Slater, *ib.*; G. A. T. Middleton, 134; Edwin T. Hall, *ib.*; The Author, 135.  
Fire Tests on Building Material, 451.  
Flashlight Advertisement Nuisance, The, 140, 360.  
Florence, The Baptistery of, 385.  
Fougeres, M. Gustave: SÉLÉNOTIE, COLONIE DOMINIQUE EN SICILE, 513, 526, 530; Translation by John W. Simpson, 526.  
FOUNDATIONS: THE USE OF DIVERS AND THE GROUTING MACHINE [Francis Fox].—Preservation of Ancient Buildings, 249; Retention of Ivy, *ib.*; Faulty Foundations and Underpinning, 250; Definition of a "Grout," *ib.*; Grouting applied to Railway Bridges, *ib.*; The Grouting Machine, 251; First Application of the System, *ib.*; Slanting of Spire of Bow Church, 252; Repair of Chester Walls, *ib.*; Use of the Machine at Winchester Cathedral, 254; Decaying Timber in Cathedral Foundations, *ib.*; Influx of Water, *ib.*; Excavations by Divers, 255; Filling of Pits with Concrete, *ib.*; Sequence of Operations, 256; Historic Fact in connection with Foundation of Winchester, *ib.*; Compression of Peat under the Cathedral, *ib.*; Cathedral Doomed unless Underpinned, 258; Repair of Corhampton Church, *ib.*; Holy Trinity Church, Hull, 259; Sinking of the Tower, 260; Disappearance of a Stone Seat, *ib.*; The Work carried out, 261; Successful Appeal for Restoration Funds, 262; Fire Risks in Ancient Churches, *ib.*; Preservation of Old Road Bridges, 263; Repair of a Westmorland Bridge, 266; The "Auld Brig o' Ayr," *ib.*; Objections against Use

- of Grouting Machine, *ib.*; Note on Cement, 268.  
*Discussion*: H. D. Searles-Wood, 269; Prof. Beresford Pite, *ib.*; Canon Rawnsley, 270; George Hubbard, *ib.*; Max Clarke, 271; The President, *ib.*; The Author, *ib.*  
 Fox, Francis: The Present Condition of St. Paul's Cathedral, 75, 76; Winchester Cathedral, 79, 175; FOUNDATIONS: THE USE OF HYDRA AND THE GROUTING MACHINE, 249, 271, 272.  
 Frampton, George: The New Institute Medal, 14; Assessor for Geneva Memorial, 454.  
 FRANCE, A FEW DAYS IN (J. H. Crace).—St. Ouen, Rouen, 170; Chartres Cathedral, *ib.*; Church of St. Pierre, Chartres, 472; Le Mans, *ib.*; Notre Dame de la Couture, *ib.*; "House of Berengaria," 473; Church of Le Petit Andely, *ib.*; Caudebec en Caux, *ib.*; The Triple-crowned Spire, 474.  
 FRANCO-BRITISH EXHIBITION, LONDON, 1908 (J. Nixon Horsfield).—The Duke of Argyll on Impressionist Architecture, 546; Artistic Efforts and the Government, *ib.*; Features Lacking, 548; What the Exhibition might have been, *ib.*; The General Plan, *ib.*; The Block Plan, 550; The Architects, *ib.*; The Main Entrances, 551; Court of Honour, *ib.*; Court of Arts, *ib.*; Domes and Towers, 552; British Education Building, *ib.*; The Canal, *ib.*; Elite Gardens, *ib.*; The Stadium, 553; Gardens of Progress, *ib.*; City of Paris Pavilion, *ib.*; Pavillon Deliens, *ib.*; Pavilions of the Colonies, 554; Smaller Buildings, *ib.*; Interiors, *ib.*; The Illuminations, 556.  
 FRENCH FLAMBOYANT, ON THE ENGLISH ORIGIN OF (Francis Bond), 356.  
 FRENCH SCULPTURE IN THE THIRTEENTH CENTURY, THE SYMBOLISM OF (A. S. Dixon).—Zenith of Gothic Art, 283; Western Front of Amiens Cathedral, 286; The Statues at Amiens, 287; Examination of some of the Details, 288; Symbolism of Animals, *ib.*; Medallion in Window at Lyons Cathedral, 290; Quatrefoil Medallions at Amiens, 292; The Northern Porch, 296; Statue of St. Theodore, *ib.*; The South Porch, 298.  
**G**  
 Galizia, E. L.: obituary notice, 231.  
 Galizia, G. H.: The late E. L. Galizia, 231.  
 Garbutt, Matt.: Bangour Village Asylum, 325; The Cathedral Church of Cefalù, Sicily, 553.  
 GARDEN ARCHITECTURE, ENGLISH AND ITALIAN (Thomson H. Mawson).—Method of Inquiry into a Style of Architecture, 485; Power of Atmosphere, 486; Freedom of Imagination, *ib.*; Failure of Home Attempts at Classic, *ib.*; Common National Idealistic Expression possessed by Italy, 487; An Architectural Simile, 488; Munich "Englisches Garten," *ib.*; The Italian Taste, *ib.*; Impression of English Gardens upon American Expert, *ib.*; Treutnam Hall, 489; Welburn Hall, 490; Berwick Hall, *ib.*; Keynote of English Gardens, *ib.*; Material of Italian Gardens, *ib.*; Traits of English and Italian Gardens, 492; Use of Marble, *ib.*; Historical: The Old Roman Suburbanum, 493; Influence of the Papal Court, 494; Tenderness evoked in the Ruined Italian Gardens, *ib.*; First Impressions of Italian Gardens, 495; Lack of Gardening Instinct, 496; Influence of English School of Landscape Gardening, *ib.*  
 Garratt, Thos.: The late Stephen Powlson Rees, 364.  
 Geneva: Proposed Calvin Monument at, 385, 453, 511, 553.  
 George, Ernest: Election as President, 478, 483; Installation as President, 503; Speech at Annual Dinner, 509, 508.  
 Gibson, James S.: Elections to the Fellowship, 107.  
 Gilbert, Cass: Annual Dinner, 507.  
 Glastonbury Abbey: Acquisition of, by Church of England, 538.  
 Godwin Bursary, The, 206, 225, 359.  
 Goodyear, Wm. H.: ARCHITECTURAL REFINEMENTS, 17, 211, 284.  
 Gothing, David: obituary notice, 653.  
 Gotch, J. A.: Corrupt Practices Act, 1906, 229; Tudor Houses (review), 466.  
 Gothic Work, Sculpture and. See AMERICAN SCULPTURE.  
 Gough, Albert Edward: obituary notice, 539.  
 Gourlay, Charles: THE PARTHENON, AND ITS INFLUENCE ON THE ARCHITECTURE OF THE CLASSIC REVIVAL, 593.  
 Graham, Alexander (Hon. Secretary): The late George Frederick Bodley, 13; The late Emile Trélat, 79; The late Edward George Hayes, 176; The late John Salmon Quilter, 208; The late Edward William Mammoth, 274; District Surveyors, 329; The late J. J. Stevenson, 455; The late Julien Guadet, 479.  
 Grand Prix de Rome Drawings and Restoration of Sellinus by Jean Iniot: M. Gustave Fougères' Paper, 513; Exhibition in London, 526; John M. Simpson's Translation, *ib.*; Contribution by H. Phené Splers, 531.  
 Greek Architecture, The Theory of. See STUDENTS, ADDRESS TO.  
 Green, L. W.: obituary notice, 621.  
 Gribble, Wm. J.: The Story of a Wood-carver of St. Paul's, 282, 306, 330.  
 Grinling Gibbons Carving, Some, 231.  
 Grissell Gold Medal, 206, 224, 272, 359.  
 Grouting Machine, Use of. See FOUNDATIONS.  
 Guadet, Julien: Election as President of Société Centrale des Architectes Français, 176; Nominated Hon. Corr. M. 409; obituary notice, 479.  
**H**  
 Hague, The: International Competition for the Peace Palace at, 304.  
 Hall, Charles R. Guy: Honours Examination in Architecture, 173 *sqq.*  
 Hall, Edwin T.: Revision of Charter and By-laws, 99 *sqq.*; Elections to the Fellowship, 107; Resignation of the Secretary, *ib.*; Recent Fire Legislation for London, 135; Honours Examination in Architecture, 174; Assessing of Competitions, 302, 303; The Annual Report, 405 *sqq.*; Retirement of President, 502; Nomination to Committee on Bridges, &c., 584.  
 Hare, Henry T.: The Cathedral Church of Cefalù, Sicily, 554; Architecture of the Bridges of London, 447; ADDRESS AT PRESENTATION OF ROYAL GOLD MEDAL, 497.  
 Harmand, Georges: Architectural Copyright, 539.  
 Harris, E. Swinfen: Heraldry (review), 278.  
 Hayes, Edward George: obituary notice, 176.  
 Hebb, John: Discovery of Byzantine Mosques, 413.  
 Henderson, Arthur E.: Indian Architecture (review), 655.  
 Henman, William: Scientific Ventilation (review), 113.  
 Heraldry (review), 278.  
 Herulanum, Excavation of, 170.  
 Hine, George T.: Bangour Village Asylum, 324.  
 Historical Monuments in England: Appointment of Royal Commission, 508, 539.  
 Hodges, Robert F.: Safety Exits for Theatres and other Places of Entertainment, 170.  
 Hogarth, D. G.: Cretan Exploration, 509.  
 Holyrood Chapel, Preservation of: John Cold, 80.  
 Honours and Appointments, 16, 79, 276, 508.  
 HONOURS EXAMINATION IN ARCHITECTURE: Motion re by Charles R. Guy Hall, 173 *sqq.*  
*Discussion*: The President, 174 *sqq.*; Wm. Woodward, 174 *sqq.*; J. Nixon Horsfield, 174; Edwin T. Hall, *ib.*; Maurice H. Adams, 175.  
 Hooper, Francis: INTERNATIONAL ART CONGRESS, 589.  
 Horsfield, J. Nixon: Revision of Charter and By-laws, 101; Honours Examination in Architecture, 174; Back to the Back Land (review), 280; Sandford Manor (review),

387: THE FRANCO-BRITISH EXHIBITION, 546.  
 Housing and Town Planning Bill, 361, 450.  
 How to Estimate (review), 238.  
 Hubbard, George: Revision of Charter and By-laws, 102; Safety Exits for Theatres and other Places of Entertainment, 170; Some Grinling Gibbons Carving, 231 *agg.*; Foundations, 270; Assessing of Competitions, 301 *agg.*; THE CATHEDRAL CHURCH OF CEFALÙ, Sicily, 334, 353, 387; The Annual Report, 408; Architectural Composition (review), 591.  
 Hudson, Edward W.: The Church of Saint-Séverin, Paris, 480; American Architecture, 586; NOTES ON AMERICAN SCULPTURE, CHIEFLY IN RELATION TO GOTHIC WORK, 605.  
 Hulot, Jean: Exhibition of his Prix de Rome Drawings, 449; His Researches at Selinus, 513, 526, 531.  
 Humphreys, G. A.: Work of late G. F. Bodley, 209.  
 Hunt v. Acton Urban District Council, 483, 509.  
**I**  
 Idealism in Architecture. *See* ARCHITECTURE, A THREEFOLD ASPECT OF.  
 Iford Emergency Hospital Competition, 414.  
 Incorporated Church Building Society: Nineteenth Anniversary, 510.  
 Incorporated Institute of British Decorators, 363.  
 Indian Architecture (review), 555.  
 Innocent, C. F.: ROMANO-BRITISH PRECEDENTS FOR SOME ENGLISH ROMANESQUE DETAILS, 649.  
 INSPIRATION IN MODERN ARCHITECTURAL ART [Professor Bernard Peto].—The First Consideration, 81; Ideal of the Enthusiast, *ib.*; What is True Architectural Art, *ib.*; The Renaissance, 82; Inspiration of Modern Designs, *ib.*; Growth of Artistic Life, 83; Insight and Fulness of Sympathy, *ib.*  
 INSPIRATION IN MODERN ART, SOURCES OF [A. S. Dixon].—Nature Study, 415; Influence of Theology, *ib.*; The Evangelical Revival, *ib.*; The Oxford Movement, *ib.*; Versatility of Nineteenth century Architecture, *ib.*; Study of History, 410; Cause of Revival of Craftsmanship, *ib.*; A New Art, *ib.*; The Growth of Democratic Feeling, *ib.*  
 Institute Contract Form, 583.  
 Institute Medal, The New, 13; Award of, for 1908, 128.  
 Intermediate Examination. *See* EXAMINATIONS.  
 INTERNATIONAL ART CONGRESS [Francis Hooper], 689.  
 International Competitions, 582.  
 International Congress, 1900: Publication of "Transactions," 328.  
 International Congress, Vienna, 1908, Announcement re Exhibition, 140;

Programme, 220; Letter from R.I.B.A. Secretary, 328; Opening, 449; Review of Proceedings (Rudolf Dicks), 480; International Competitions, 582.  
 International Drawing Congress, 327.  
 Italian Gardens. *See* GARDEN ARCHITECTURE.  
**J**  
 Jackson, T. G.: Proposed Diploma in Architecture at Cambridge, 237; Winchester Cathedral, 306.  
 Jeffery, George: FAMAGUSTA, 625.  
 Jemmett, A. R.: Assessing of Competitions, 329.  
 Johnson, Frank Garfield: obituary notice, 330.  
**K**  
 Keyser v. Trask and Sons, 143.  
 Kirby, Edmund: The Cathedral Church of Cefalù, Sicily, 352.  
 Knott, Ralph: Design for New County Hall, 228.  
 Knoxxes, Dr. Evans's Work at, 207, 509, 584.  
 Knowles, Sir James: obituary notice, 276.  
**L**  
 Laconia, Excavation Work in, 273.  
 Lanchester, H. V.: President's Opening Address, 12.  
 Langston, H. Hardwicke: Revision of Charter and By-laws, 100, 101, 103.  
 Law Courts, Site of Additional, 508.  
 Legal.—Keyser v. Trask and Sons and another, 143; Architects and the Prevention of Corruption Act, 229; Architects' Remuneration: The Institute Scale, 277; Hunt v. Acton Urban District Council, 483, 509; Architects' Fees, 656.  
 Lethaby, Prof. W. R.: THE THEORY OF GREEK ARCHITECTURE (Address to Students), 213.  
 Leverton, W. J. K.: Advancement of British Architecture, 284.  
 LIBRARY, THE: Report of the Librarian, 396; Statistics of Attendances and Books Issued, *ib.*; Summary of the Year's Additions, xix.  
 Light and Air (review), 542.  
 Literature Standing Committee: Report of, 395; Election of, and Votes Polled, 478, 484; Council Appointments, 584.  
 Liverpool Cathedral: Architect of, 79.  
 Locke, W. J.: Resignation as Secretary, 107, 189; Induction as Hon. Associate, 330.  
 London Building Acts: Proposed Amendments re Thickness of Walls, 583; Amendment of the Act of 1894 in L.C.C. General Powers Act 1908, 651.  
 London County Council: County Hall Competition, 78, 228, 299, 584; Appointment of District Surveyors, 329, 584; The R.I.B.A. and Architectural Matters of Public Import-

ance, 359; School of Building, 479; Crosby Hall, *ib.*; Amendments to London Building Act 1894, 583, 651.  
 London Fire Legislation. *See* FIRE LEGISLATION.

**M**

Macalister, G. Ian: Appointment as Secretary R.I.B.A., 228.  
 Macartney, Mervyn: THE PRESENT CONDITION OF ST. PAUL'S CATHEDRAL, 53, 77, 78.  
 McDonnell, Sir Schomberg: Speech at Annual Dinner, 505.  
 Mansfield, George Allen: obituary notice, 329.  
 MATERIAL [Paul Waterhouse].—Definitions of "Art," 457; The Material of Architecture, 458; Professional and Artistic Obligations, *ib.*; Relation of Architecture to other Arts, 459; Material Slow to Answer, 460; How Material must be Handled, *ib.*; Is the Employer a Part of Material? 461; Miracles, *ib.*; Purpose an Element in Material, 462; Bondage of Tradition, *ib.*; Deus ex Machina, *ib.*; No Building Design beneath an Architect's Skill, 463; Good Planning to be Set on the Material Side, *ib.*; An Art often confused with an Allied Art, 464; Analysis of Art, *ib.*; Meaning of Material, *ib.*; Control of Certain Conditions of Architectural Design, 465; Function of the Architect, *ib.*; A Billionous Story and its Moral, *ib.*  
 Mathews, J. Douglass: The Present Condition of St. Paul's Cathedral 76; Recent Fire Legislation for London, 181.  
 Mawson, Thomas H.: ENGLISH AND ITALIAN GARDEN ARCHITECTURE, 485.  
 Measured Drawings Medal, The, 205, 220, 272, 359.  
 Mediaeval Bricks. *See* BRICKS.  
 Mediaeval Castles of Germany (review), 386.  
 Middleton, G. A. T.: Revision of Charter and By-laws, 29 *agg.*; Recent Fire Legislation for London, 134; Architectural Refinements, 211; Assessing of Competitions, 301.  
 MINUTES.—I. Nov. 4, 1907 (Ordinary), 52; II. Nov. 18 (Ordinary), 80; III. Dec. 2 (Business), 105; IV. Dec. 16 (Ordinary), 144; V. Jan. 6, 1908 (Business and Ordinary), 180; VI. Jan. 20 (Ordinary), 212; VII. Feb. 3 (Ordinary), 238; VIII. Feb. 17 (Ordinary), 277; IX. March 2 (Special, General, and Business), 308; X. March 16 (Ordinary), 332; XI. March 30 (Ordinary), 364; XII. April 13 (Ordinary), 388; XIII. May 4 (Annual General), 409; XIV. May 18 (Ordinary), 456; XV. June 1 (Business), 483; XVI. June 22 (Ordinary), 512.  
 Modern Architectural Art. *See* INSPIRATION.  
 Modern Buildings (review), 413.

Monro, Mr. Regulations for Reinforced Concrete Construction, 112.  
Mortars. See BUILDING MORTARS.  
Mosaics, Byzantine: Discovery of, 413.  
Mountford, Edward William: obituary notice, 274.  
Municipal Building and Public Health Exhibition, 455.

## N

National Federation of Building Trades' Employers and the Institute Contract Form, 583.  
Novell, Ralph: Early Bricks, 114.  
New York Metropolitan Art Museum: The Director, 599.  
New Zealand Institute of Architects: Annual Meeting, 361.  
"Noes": Visits to Buildings, 212.

## O

OBITUARY.—George Frederick Bodley, 13, 79, 145; John Barnes Colson, 275; D. R. Dale, 329; Alfred Darbyshire, 540; Duke of Devonshire, 360; Leopold Eidlitz, 653; E. L. Galizia, 231; David Gostling, 653; Albert Edward Gough, 539; L. W. Green, 621; Julien Guadet, 479; Edward George Hayes, 176; Frank Garfield Johnson, 330; Sir James Knowles, 276; George Allen Mansfield, 329; Edward William Mountford, 274; Francis Haslam Oldham, 540; John Salmon Quilter, 208; Charles Frederick Reeks, 386, 539; Stephen Powlson Rees, 364; Hugh Stammers, 587 *sup.*, 621; J. J. Stevenson, 455, 482; Emile Trélat, 70.  
Ogden, Paul: Report on Dry-rot, 475.  
Oglesby, Robert P.: Some Old English Art (review), 592.  
Old English Art (review), 592.  
Old English Country Buildings (review), 592.  
Old Flemish Towns (review), 624.  
Oldham, Francis Haslam: obituary notice, 540.  
Oldrieve, W. T.: THE ROYAL PALACES OF SCOTLAND, 181, 307, 417.  
OPENING ADDRESS, by the President, 1.  
Opening Meeting, The, 13.  
Owen Jones Studentship, 206, 222, 272, 359.

## P

PARTHENON, THE, AND ITS INFLUENCE ON THE ARCHITECTURE OF THE CLASSIC REVIVAL (Charles Gouley).—Situation of Athens and Principal Buildings, 593; How most Accurate Idea of the Parthenon Obtainable, *ib.*; Date of Erection and Architects, 594; The Porticoes and Columns, 595; Curvature of the Stylobate, *ib.*; The Entablature and Roof, 596; Panathenaic Frieze and Colling of the Stoa, *ib.*; Construction of the Roof, *ib.*; Problem of Illumination, *ib.*; Foundation and Site, 597; In-

clination of Outer Columns, *ib.*; The Architrave, *ib.*; Material, 598; Use of Metal Cramps, *ib.*; Remarkable Jointing, *ib.*; Preparation of the Stones, 599; Building of the Columns, *ib.*; Colour Decoration, 600; Sparsity of Carving, *ib.*; Employment of Sculpture, *ib.*; Description of Panathenaic Frieze, 601; Later History of the Parthenon, *ib.*; Finest Example of Architectural Design and Construction, *ib.*; Influence of the Parthenon: Facsimile on the Calton Hill, Edinburgh, 602; Revival of Greek Architecture, *ib.*; Judiciary Buildings, Jail Square, Glasgow, 604; The Waltham, near Hagenburg, *ib.*; Portico of the Custom House at Philadelphia, *ib.*; Reproduction of Ancient Designs deprecated, *ib.*

Penrose, The late Mr., on the Burlington-Devonshire Collection, 360.

Pick, S. Perkins: Bangour Village Asylum, 324.

Pite, Professor Beresford: President's Opening Address, 11; INFLUENCE IN MODERN ARCHITECTURAL ART, 81; Foundations, 263; The late Edward W. Mountford, 274; The Hague Peace Palace Designs, 304; THE ARCHITECTURE OF THE BRITISH OF LONDON, 425, 448; The late J. J. Stevenson, 455.

Plenum System of Heating and Ventilating, 112.

Plumbers, National Registration of, 16.

Plummer, Arthur B.: Inaugural Address to the Northern Association, 114.

Pontypidd Union Offices: competition, 277.

Poynter, Ambrose: The Woodcarver at St. Paul's, 306.

Practice Standing Committee, Report of: Institute Form of Contract: *Robins v. Goddard*: Letting Building Work in Separate Trades: Bankruptcy of Contractor: Building Owner and Workmen's Compensation Act: L.C.C. General Powers Bill, 1908: Professional Advertising, 397; Election of, and Votes Polled, 478, 484; Council Appointments, 584.

Preliminary Examination. See EXAMINATIONS.

Preservation of Ancient Monuments, 80, 362, 508, 538, 539, 582, 584.

President's "At Home": Exhibition of Drawings, 228; Exhibition of Drawings, Plans, and Photographs, 411.

PRESIDENT'S OPENING ADDRESS (Thomas Edward Colcutt).—The Visit to Edinburgh and Annual Dinner, 1; Holyrood Palace and Chapel, *ib.*; Architectural Interest evinced by Corporations, &c., 2; Revision of Charter and By-laws, *ib.*; Rights of Associates, 3; Architectural Development of Town and Suburbs, 4; Covered Footways for Bridges, *ib.*;

Architectural Competitions, 5; Bethnal Green Municipal Buildings, *ib.*; Acton Municipal Buildings, 6; International Congress of School Hygiene, 7; Condition of St. Paul's, *ib.*; Preservation of Crosby Hall, *ib.*

Vote of Thanks: John Slater, 8; Leonard Stokes, 10; Professor Beresford Pite, 11; H. V. Lanchester, 12.

Prevention of Corruption Act, Architects and the, 229.

Prior, Edward S.: Architectural Refinements, 79, 180.

Price Drawings, Annual Exhibition of, 175.

PRIZES AND STUDENTSHIPS, 1908: Deed of Award, 205; CRITICISM OF WORKS SUBMITTED FOR [E. Guy Dawber], 219; Vote of Thanks, 226; Annual Exhibition of Drawings, 228; Prize Drawings for Exhibition in the Provinces, 272; Prizes and Subjects for 1909, 359.

Public Offices Sites (Extension) Bill, 451.

Pugin Studentship, 206, 221, 272, 359.

## Q

Quilter, John Salmon: obituary notice, 208.

## R

Rawnsley, Canon: Foundations, 370.

Radford, Harry: The late J. J. Stevenson (in memoriam), 482.

Reeks, Charles Frederick: obituary notice, 386, 539.

Rees, Stephen Powlson: obituary notice, 364.

Registration of Plumbers, 16.

Reid, A. H.: Revision of Charter and By-laws, 104, 105.

Reinforced Concrete: H.M. Office of Works and, 137; Report of the Science Standing Committee, *ib.*; Fire-resisting Properties of, 412, 452; Regulations for Construction, 412; Failure of a Reinforced Beam, 453; *Builder* competition for Architectural Treatment of, 652.

Report on Dry-rot. See DRY-ROT.

REVIEWS.—Anderson, William J., and Spiers, R. Phœbe: *The Architecture of Greece and Rome* [Wm. Henry Ward], 176; Baudin, Henry: *Les Constructions Scolaires en Suisse*, &c. [Arthur H. Ryan Tennant], 280; Bond, Francis: *Screens and Galleries in English Churches* [Charles Spooner], 543; Cox, J. Charles: *English Church Furniture* [Francis Bond], 331; Dunn, Horace, and Willmott, E. O. Morgan: *English Shop-fronts Old and New* [Arthur Stratton], 331; Davie, W. Galsworthy, and Green, W. Curtis: *Old Cottages and Farmhouses in Surrey* [Fredk. Osborne Smith], 582; Ditchfield, P. H.: *The Charm of the English Village* [Benjamin Walker],

467; Ebhardt, Herr Rodo; Pamphlets, &c., on German Medieval Castles [Ethel Charles], 386; Eve, G. W.: *Heraldry as Art* [E. Swinfen Harris], 279; Fletcher, Prof. Danister: *Imperial Gazetteer of India, The* [Arthur E. Henderson], 655; *Light and Air* [C. H. Brodie], 542; Garner, Thomas, and Stratton, Arthur: *The Domestic Architecture of England during the Tudor Period* [J. A. Gatch], 466; Green, E. Tyrrell: *Towers and Spires, their Design and Arrangement* [Francis Bond], 278; Middleton, G. A. T.: *Modern Buildings, their Planning, Construction, and Equipment* [Frederick Chatterton], 413; Paul, Major E. M.: *Manual of Road Construction and Maintenance* [R. J. Angel], 624; Potter, Thomas: *Concrete: Its Uses in Building, &c.* [William Dunn], 622; Rea, John T.: *How to Estimate* [C. H. Brodie], 238; Robida, A.: *Les Vieilles Villes de France* [R. Langton Cole], 624; Robinson, J. Beverley: *An Attempt to Order and Phrase Ideas, &c.* [George Hubbard], 591; Scott-Mitchell, Fredk.: *Specifications for Decorators' Work* [J. D. Grace], 623; Shaw, W. N.: *Air Currents and the Lines of Ventilation* [William Henman], 113; Town-planning in Theory and Practice [J. Nixon Horsfield], 281; Vallance, Aylmer, and Salaman, Malcolm C.: *Art in England during the Elizabethan and Stuart Periods* [Robert P. Oglesby], 582; Webb, W. Arthur: *Sandford Manor, Fulham* [J. Nixon Horsfield], 387.

Riley, W. E.: Recent Fire Legislation for London, 131, 132; Architecture of the Bridges of London, 445.

Roads (review), 624.

Roof-lofts, Screens and, 454.

ROYAL GOLD MEDAL, 1908: Nomination and Election of M. Honoré Daniet, 299; The King's Approval, 327; Presentation Address by Henry T. Haro, 497; M. Daumet's Reply, 500.

ROYAL PALACES OF SCOTLAND, THE [W. T. Oldrieve].—Large Number of Ancient Royal Dwellings, 191; List of Palaces, *ib.*; Buildings Demolished, 182; Sites and Designs, *ib.*; Material Employed, *ib.*; List of Reigns of Scottish Kings, 183; List of Master Masons of the Crown, *ib.*; Roxburgh Castle, 184; Traquair House, *ib.*; Rothesay Castle, *ib.*; Kildrummie, 185; Dunstaffnage Castle, 186; Lochmaben Castle, 187; Palace of Dunfermline, *ib.*; Dundonald Castle, 188; Linlithgow Palace, *ib.*; Edinburgh Castle, 191; Stirling Castle, 193; Falkland Palace, 195; Holyrood Palace; The Abbey, 196; The Ancient Palace, 199; Palace of Charles II., *ib.*;

The Plaster Ceilings, 201; Bills for Restoration Work, *ib.*; Ownership of Existing Palaces, 204; Ceilings of Holyrood Palace, 417; Details of Stirling Castle, *ib.*

Royal Sanitary Institute: Seasonal Programme, 620.

## S

SAFETY EXITS FOR THEATRES AND OTHER PLACES OF ENTERTAINMENT [S. Hurst Seager].—"The Safety Exit" in New Zealand, 159; Principles, not Precedents, to be Studied, *ib.*; Regulations of the London County Council, 160, 167; The Problem to be Solved, 160; A False Security, *ib.*; Pressure Encountered in Leaving the Stalls, 161; Advantage of the Straight Passage, 162; The Accumulation of Pressure, *ib.*; Outcome of Oblique Forces, 163; Attainment of Maximum Safety, *ib.*; Application of the Safety Exit to Doorways, 164; Radius of Curves, *ib.*; The Safety Exit applied to the Circle, 165; Gangway and Corridor Construction, *ib.*; Unit Measurements and Adopted Rules for Exits, 166; Blockage caused by Formation of Segmental Arch, 167; Division or Reduction of Corridors, 168; Danger of Doors Opening into Corridor, *ib.*; Stairs demanded by L.C.C., *ib.*; Confusion at Exits into Street, *ib.*; Amendment of L.C.C. Regulations imperative, 169.

Discussion: Wm. Woodward, 169; George Hubbard, 170; W. H. Atkinberry, *ib.*; Robert F. Hodges, *ib.*; Max Clarke, 171, 172; The Author, 171, 172, 312; H. Heathcote Statham, 172; R. F. Chisholm, *ib.*

Saint-Gaudens, Augustus, Proposed International Memorial to, 654.

St. Paul's Cathedral:

I. THE PRESENT CONDITION OF [Mervyn Macartney].—Publication of Committee's Report, 53; The Proposed Low-level Sewer, 55; Appointment of the Committee, *ib.*; Diversion of the Sewer, *ib.*; Nature of the Subsoil, 59; Historical Résumé of Wren's Cathedral, *ib.*; Foundations of the Old Church, 58; Completion of St. Dunstan's Chapel, 59; Repair of Flaws in Eighteenth Century, *ib.*; Alarm caused by Sewerage Scheme of 1831, 59; Danger apprehended from Proposed Central London Railway, 63; Main Points of Weakness, *ib.*; The Dome, *ib.*; Repairs to South Transept and Portico, 68; The Southern Façade, *ib.*; Condition of West Front, 70; Design of the Portico, *ib.*; Danger primarily from Subterranean and Atmospheric Influences, 71.

II. THE DOME OF St. Paul's [Wm. Dunn].—Peculiarity in Domes, 73;

The Lantern, *ib.*; The Belt or Girdle of Stone, *ib.*; The Domed Top on the Cone, *ib.*; Use of Iron Ties, 73; Effect of the Ties, *ib.*; Danger of Iron embedded in Stone? 74; Stability of Domes, *ib.*

Discussion: John Slater, 74; R. Phene Spiers, 75; Francis Fox, *ib.*, 76; Wm. Woodward, 76; J. Douglass Mathews, *ib.*; J. J. Burnet, *ib.*, 77; Leonard Stokes, 76; The Authors, 77.

St. Paul's, Story of a Woodcarver. See WOODCARVER OF St. PAUL'S.

Saint-Severin, Paris, Church of: Proposed Demolition, 480.

Samuel, Stuart M., M.P.: Speech at Annual Dinner, 504.

Sandford Manor (review), 387.

School of Art Woodcarving, 621.

School Buildings (review), 280.

Science Museum, Proposed New, 508.

Science Standing Committee: Report on Reinforced Concrete, 187; Report of, 307; Election of, and Votes Pollcd, 478, 484; Council Appointments, 584.

Scientific Ventilation (review), 113.

Scotland, Royal Palaces of. See ROYAL PALACES.

Scott, Gilbert: Appointment as Architect for Liverpool Cathedral, 79.

Scottish Historical Monuments: Royal Commission, 208.

Screens and Roof-lofts, 454.

Sculpture, French. See FRENCH SCULPTURE.

American. See AMERICAN SCULPTURE.

Seager, S. Hurst: Recent Fire Legislation for London, 132, 134; SAFETY EXITS FOR THEATRES AND OTHER PLACES OF AMUSEMENT, 159, 171, 172, 212.

Searle, S. Cecil: The late Edward George Hayes, 176.

Seares-Wood, H. D.: Foundations, 269; The late Edward W. Mountford, 275; Mortar Experiments, 305.

Secretaryship R.I.B.A.: Mr. Lacke's Resignation, 107, 139; Mr. MacAlister's Appointment, 228.

SÉLIXONTE, COLONIS DORTENSK EN SICILE [Gustave Fougères], 513 *agg.*

— TRANSLATION by John W. Simpson. — Circumstances leading to Selection of Selinus, 526; Data Necessary to Found a Restoration, 527; Importance of the "Restoration" to Prix de Rome Students, *ib.*; Meaning of a "Restoration," *ib.*; Use of "Restoration," *ib.*; Benefit of Intercourse with Antiquity, *ib.*; Teaching of Architects, *ib.*; M. Hulot's Choice of Selinus, 528; History of Selinus, *ib.*; Discovery of Selinus, and Work done, *ib.*; The Temples, 528 *agg.*; Publications dealing with Selinus, 529; Site and Formation of the City, *ib.*; Greek Houses, *ib.*; The Acropolis,

- 529; Representation of Selinus by the Artist, 530.
- SÉLINONTE, COLONIE DORIENNE EN SICILE, REVIEW OF THE DRAWINGS, by R. Phené Spiers, 531.
- See also GRAND PRIX DE ROME.
- Selinus, Restoration of. See SÉLINONTE.
- SESSIONAL AND OTHER PAPERS:—
- American Sculpture, Notes on: Chieffy in Relation to Gothic Work [E. W. Hudson], 605.
- Architectural Irregularities in Byzantine Churches [Ramsey Traquair], 90.
- Architectural Refinements [Wm. H. Goodyear], 17; [John Wilson], 81.
- Architecture, A Threefold Aspect of: Tradition, Character, Idealism [H. Heathcote Statham], 365.
- Architecture as a Fine Art [J. L. Ball], 239.
- Assessing of Competitions: Resolutions and Discussion on, 299.
- Bangour Village Asylum [Hippolyte J. Blanc], 369.
- Bodley, George Frederick [Prof. F. M. Simpson], 145.
- Bridges of London. The Architecture of [Prof. Beresford Pite], 425.
- Byzantine Churches, Architectural Irregularities in [Ramsey Traquair], 90.
- Cefalù, Sicily, The Cathedral Church of [George Hubbard], 333.
- Charter and By-laws, Revision of, 91.
- Christchurch Priory, Hampshire: The Church of the Holy Trinity, Twynham [G. J. Coombs], 557.
- Dome of St. Paul's [Wm. Dunn], 79.
- Dry-rot, Report on [Paul Ogden], 475; Some Notes on [F. T. Baines-Hewitt], 512.
- Famagusta [George Jefferys], 625.
- Fire Legislation for London, Recent [Wm. Woodward], 117.
- Foundations: The Use of Divers and the Grouting Machine [Francis Fox], 249.
- France, A Few Days in [J. D. Crace], 470.
- Franco-British Exhibition, London, 1908 [J. Nixon Horsfield], 540.
- French Flamboyant, On the English Origin of [Francis Bond], 356.
- French Sculpture in the Thirteenth Century, The Symbolism of [A. S. Dixon], 285.
- Garden Architecture, English and Italian [Thomas H. Mawson], 485.
- Greek Architecture, The Theory of. See STUDENTS, ADDRESS TO.
- Holyrood Chapel, Preservation of [John Codd], 80.
- Inspiration in Modern Architectural Art [Prof. Beresford Pite], 81.
- Inspiration in Modern Art, Sources of [A. S. Dixon], 415.
- International Art Congress [Francis Hooper], 589.
- M. Jean Hilot's Prix de Rome Work [R. Phené Spiers], 531.
- Material [Paul Waterhouse], 457.
- Opening Address, President's [Thomas Edward Colcutt], 1.
- Parthenon, The, and Its Influence on the Architecture of the Classic Revival [Charles Goultay], 393.
- Prizes and Studentships, Criticism of the Works submitted for [E. Guy Hawker], 219.
- Romano-British Precedents for some English Romanesque Details [C. F. Innocent], 649.
- Royal Gold Medal, Presentation of: Addresses [Henry T. Hare and M. Daumes], 497.
- Royal Palaces of Scotland, The [W. T. Oldrieve], 181.
- Safety Exits for Theatres and Other Places of Entertainment [S. Hurst Seager], 159.
- St. Paul's Cathedral, The Present Condition of [Mervyn Macartney], 53.
- Sélinonte, Colonie Dorienne en Sicile [Gustave Fongères], 513; Mr. John W. Simpson's Translation, 526.
- Some Recollections of Hugh Stannus [R. Phené Spiers], 588; [Paul Waterhouse], 621.
- Students, Address to [Prof. W. K. Lethaby], 213.
- Sessional Programme 1908-09, 617.
- Sessions House, Old Bailey: Heating and Ventilating of, 112.
- Seth-Smith, W. Howard: Revision of Charter and By-laws, 102; The Cathedral Church of Cefalù, Sicily, 351; Regulations for Reinforced Concrete Construction, 412.
- Shakespeare Memorial, The, 327, 363.
- Sheffield University: Formation of Architectural Department at, 114; Architectural Course at, 538.
- Shop-fronts (review), 331.
- Simpson, John W.: Mr. Locke's Resignation, 173; The Annual Report, 407; Translation of M. Fongères' Paper on Selinus, 526; Translation of Resolutions re International Competitions, 582.
- Simpson, Prof. F. M.: GEORGE FREDERICK BODLEY, R.A., 145; Architectural Refinements, 210.
- Sister Arts, The, 363.
- Slater, John: President's Opening Address, 9; The Present Condition of St. Paul's Cathedral, 74; Elections to the Fellowship, 167; Recent Fire Legislation for London, 133; A Threefold Aspect of Architecture, 363; Retirement of President, 502.
- Smith, Fredk. Osborne: Old English Country Buildings (review), 592.
- Soane Medallion, 205, 223, 372, 359.
- Société Centrale des Architectes Français, 176.
- Society for the Preservation of Ancient Buildings, 538.
- Southwark Bridge: Reconstruction of, 451.
- Special Examination. See EXAMINATIONS.
- Spiers, R. Phené: The Present Condition of St. Paul's Cathedral, 75; The Cathedral Church of Cefalù, Sicily, 351; M. JEAN HILOT'S PRIX DE ROME WORK, 531; Some Recollections of Hugh Stannus, 588.
- Spooner, Charles: English Church Screens (review), 543.
- Stannus, Hugh: The late John Salmon Quilter, 205; Death of, and Memoir, 587; Some Recollections of [R. Phené Spiers], 588; An Additional Note on [Paul Waterhouse], 621.
- Statham, H. Heathcote: Safety Exits for Theatres and other Places of Entertainment, 172; Assessing of Competitions, 301; A THREEFOLD ASPECT OF ARCHITECTURE, 365, 383; Architecture of the Bridges of London, 445.
- Statutory Examinations. See EXAMINATIONS.
- Steel, Mild, embedded in Concrete, 463.
- Stevenson, J. J.: obituary notice, 455; Memoir, 482.
- Stokes, Leonard: President's Opening Address, 10; The Present Condition of St. Paul's Cathedral, 75; Annual Dinner, 507.
- Stratton, Arthur: Shop-fronts (review), 331.
- STUDENTS, ADDRESS TO: THE THEORY OF GREEK ARCHITECTURE [Prof. W. K. Lethaby].—Analyses of Buildings published by Greek Architects, 213; General Theory and Sociology, 214; Interest of Practical Worker in Theory and Principles, *ib.*; The Essence of Greek Architecture, *ib.*; The Idea of Proportion, 215; Essentials for a Perfect Ideal, *ib.*; The Proper Laws of Being, *ib.*; Method of Ratio Measurement used by Vitruvius, 216; A Definition of Architecture, *ib.*; Development of Greek Art compared with Literature, *ib.*; A German Critic on Greek Sculpture, 217; Development of Character of the Two Great Orders, *ib.*; Separation of Two Chief Characteristics of Greek Art, *ib.*; The Problem enunciated, *ib.*; The Artist a Medium, *ib.*; The Classic Spirit, *ib.*; Suggestions to Students, *ib.*; Travelling Students and Publication of Researches, 219.
- Vote of Thanks: The President, 225; Reginald Blomfield, *ib.*; Sir Aston Webb, 227.
- Students, Books recommended to, 617.
- Studentships and Prizes. See PRIZES.
- Survey of Memorials of Greater London, Committee for: Appeal by, 230.
- T
- T-Square Club: Concert for Architects' Benevolent Society, 413.
- Taylor, Mr. Medlam: A Correction, 587.

Tenison, Arthur H. Ryan: School Buildings (review), 280.

Territorial Army, Architects and the, 478.

The Certificate, 206, 224, 272, 359.

Tiverton Schools Competition, 332.

Theatres, Safety Exits for. See SAFETY EXITS.

Towers and Spires (review), 278.

Tradition in Architecture. See ARCHITECTURE, A THREEFOLD ASPECT OF.

Traquair, Ramsay: ARCHITECTURAL IRREGULARITIES IN BYZANTINE CHURCHES, 90.

Travelling Students' Work: Council's Approval, 207.

Trélat, M. Emile: obituary notice, 79.

Tropp, F. W.: The late J. J. Stevenson (memoir), 482.

Tudor Houses (review), 460.

Tyne and Blyth District Conciliation Board for the Building Trades: Building Contracts, 541.

## U

United States, Sculpture in. See AMERICAN SCULPTURE.

Use of Divers and the Grouting Machine. See FOUNDATIONS.

## V

Vanishing London, Appeal for, 230.

Vaughan, Henry: The late George Frederick Bodley, 79.

Ventilation, Scientific, 113.

Vienna, International Congress at, 140, 229, 328, 410, 480, 532.

## W

Walker, Benjamin: English Villages (review), 407.

Walls, Proposed Legislation re Thickness of, 583.

Ward, Wm. Henry: Architecture of Greece and Rome (review), 176.

Warren, Edward: The late George Frederick Bodley, 14, 79.

Waterhouse, Paul: MATERIAL, 457; Note on the late Hugh Stannus, 621.

Webb, Sir Aston: Elected Assessor in New County Hall Competition, 78; Revision of Charter and By-laws, 102; Prizes and Studentships, and Address to Students, 227; A Threefold Aspect of Architecture,

382; Speech at Annual Dinner, 504.

Welsh Historical Monuments: Royal Commission, 581.

Wilkinson, R. Stark: Revision of Charter and By-laws, 100.

Wills, Herbert W.: Assessing of Competitions, 299, 303, 304.

Wimperis, Edmund: Assessing of Competitions, 301.

Winchester Cathedral: Preservation of, 58, 175, 305.

Woodcarving, School of Art, 621.

WOODCARVING OF ST. PAUL'S, STORY OF A: Copy of British Museum Manuscript [Wm. J. Gribble], 282, 330.—Correspondence: Arthur T. Bolton, 306; Ambrose Poynter, 15.; Wm. J. Gribble, 307; F. H. Cheetham, 541.

Woodward, Wm.: The Present Condition of St. Paul's Cathedral, 76; RECENT FIRE LEGISLATION FOR LONDON, 117, 135; Safety Exits for Theatres and other Places of Amusement, 169; Honours Examination in Architecture, 174 *seq.*; Assessing of Competitions, 303; Bangour Village Asylum, 324; District Surveyors, 329; The Annual Report, 402 *seq.*

## LIST OF ILLUSTRATIONS.

Portrait of Honoré Daubet, Royal Gold Medallist—frontispiece.

THE NEW INSTITUTE MEDAL FOR ESSAYS AND MEASURED DRAWINGS. Reverse and Obverse, 15.

### ARCHITECTURAL REFINEMENTS.

Plumb-line at Pier No. 5, North Side of Amiens Cathedral, 38.

Plumb-line at Vaulting-shaft, from Capital to Stringcourse, of Pier No. 1, North Side of Amiens Cathedral, 39.

Cable Plumb on the South-east Crossing Pier at Amiens Cathedral, 42.

Plan of Amiens Cathedral, 43.

Plumb on Piers Nos. 7 and 5, North Side of Amiens Cathedral, 44.

Plumb on the South-west Crossing Pier, Amiens Cathedral, 46.

Plumb-line, North Side of Nave, Ithelma Cathedral, 50.

Amiens Cathedral, South Transept, East Side, Bay next Crossing, 86.

Nave Vault, 89.

Vézelay Nave, looking West, 210.

St. Mary's Church, Dover, 211.

THE PRESENT CONDITION OF ST. PAUL'S CATHEDRAL.

St. Paul's from the Roof of St. Bartholomew's Hospital, 53.

Sections showing Level of London Clay, 54.

Wren's "Model" Design, 57.

Ground Plan of Old St. Paul's, showing in Outline the Change of Axis in the Present Cathedral, 58.

Wren's Original Drawing of Quarter-plan of the Dome Area, 60.

Section of St. Paul's depicting Original Scheme of Decoration, facing p. 60.

An Original Drawing by Sir Christopher Wren, 61.

View from the North-west, 64.

Part of South Front, 65.

The North Transept, 66.

The Bishop's Throne, 67.

Plan of Crypt, &c., facing p. 68.

Cross-section through Transepts, showing Cracks, 69.

Plan showing Present Arrangements and Improvements, also the Existing Fragments of Old St. Paul's.

Plan showing the Approaches to the Library, Trophy Room, Corridors, and Roofs over the Aisles.

Ground Plan and Diagrams of Borings.

### THE DOME OF ST. PAUL'S.

Plan of the Dome, facing p. 72.

Supporting Stones for Base of Girdle of Stone under Golden Gallery, 73.

### GEORGE FREDERICK BODLEY, R.A.

Church of St. Martin-on-the-Hill, Scarborough, 145, 148, 149.

Church of St. Michael and All Angels, Brighton, 147.

Church of St. Augustine, Pendlebury, 150.

Church of the Holy Angels, Hoar Cross, 151.

Church of St. Mary, Clumber, 153.

Church and Monastery of St. John the Evangelist, Cowley, Oxford, 155.

Church of All Saints, Danehill, Sussex, 156.

Eccleston Church, 157.

Church of St. Edward, Holbeck, 158.

### SAFETY EXITS FOR THEATRES AND OTHER PLACES OF ENTERTAINMENT.

Dress Circle: Showing Pressure at Exit, 161.

Stalls: Showing Pressure at Exit, 161.

Diagram showing Accumulated Pressure of Four Persons, 163.

The Safety Exit applied to a Four-foot Doorway, 163.

Dress Circle: Exits from Seats, 164. Stalls: showing Application of Safety Exit when the Doorway can be divided into Three, 164.

Plan showing Arrangement of Exits into Corridor to avoid Crushing, 165.

Passage-ways at Ends of Seats, 166.

Plan showing Bad Arrangement of Exits into Corridor and Reduced Width in Doorway, 167.

Plan of Stairs as recommended by L.C.C., and Suggested Improvement, 168.

Plan showing Suggestion for Preventing Crushing at Entrances, 168.

#### THE ROYAL PALACES OF SCOTLAND.

Palace of Linlithgow in Sixteenth Century, 181.

Rothsay Castle: General Plan, showing Moat, &c., 186.

Dunfermline Palace and Abbey: Plan, 187.

Linlithgow Palace: N.E. Corner of Courtyard, 189; Great Hall, with Chimney-piece Restored, 190.

Edinburgh Castle: View of Palace Block from the East, 191; Iron Crown Square, 192; Interior of Great Hall of Palace as Restored, 192.

Stirling Castle: General Plan, 194; Plan of Palace and Parliament Hall, 195; Parliament House before Military Occupation, 199; Parliament House, Mutilated for Military Occupation, 199; Details, 191, 192, 193, 194; One Bay of Elevation of Palace to Upper Courtyard, 193.

Holyrood Palace: Key Plan, 197; Chapel Royal, View of South Wall of Nave, with Flying Buttresses, 198; Queen Mary's Audience Chamber, Remnant of Ancient Frieze Decoration in Temples, 199; New Palace, Ground and First Floor Plans, 200; Ceilings, 202, 203; Detail, West Door, Chapel Royal, 204; Ceilings, 418 and folding plates between pp. 418 and 419; Spandrel Panel in Ceiling of Queen's Bedroom, 419.

#### SOME ORNAMENTAL GIBBONS CARVING, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.

Arms of Winchester College, 232.

A Portion of the Ante-Chapel Screen, 233.

One of Six Panels of the Ante-Chapel Screen, 234.

Upper Wall Panels, 235.

Ionian Capital of One of the Three-quarter Columns, 236.

Various Carvings, 236.

#### FOUNDATIONS: THE USE OF DIVERS AND THE GROUTING MACHINE.

Winchester Cathedral: South-east View from the Deanery Garden, 249.

The Grouting Machine at Work, 251.

Chester Walls: Section of the Old Ramparts, 253.

Winchester Cathedral: Old Beech Trees under the Walls of Presbytery, 254; Section through Wall of Presbytery, 255; The Diver Descending, 256; Showing the Concrete Bags deposited by Diver, 257; The Grouting Machine at work on the Roof, 257; S. Transept, E. Side, S. Window of Clerestory, 258; Disintegrated Condition of the Vaulting of Presbytery, 259; The Broken Rib and Arch of the Vaulting in the Presbytery, 260; Crack in Window, E. End, N. Aisle, Main Crypt, 261; Showing Plumb-line on S.E. Respond Pier, Langton Chapel Presbytery, 262.

Holy Trinity Church, Hall: From the South-west, 263; From West End, 264; Some of the Smaller Oak Logs from under the Tower, showing Serious Decay, 264; The Stone Seat or Bench Table found beneath the Floor of the Church, 265; S.W. Pier of Tower, looking S.E., showing Girdera, 265; Taking down one of the Nave Pillars, 266; Portions of Nave Pillars, also Patched Stones, 267.

An Old Bridge in Westmorland, 267. Bridge over a Cumberland River, 268.

#### THE SYMBOLISM OF FRENCH SCULPTURE IN THE THIRTEENTH CENTURY.

Amiens Cathedral: The Three Porches, West Front, 285, 286. I.e. "Bon Dieu d'Amiens": Figure of Christ on Trumeau of Central Porch, 287.

Apostles in Central Porch, Amiens, 288.

Tympanum of Central Porch, Amiens, 289.

Amiens: Pedestal of the Figure of Christ Above, 289.

Lion and Cub: Window at Lyons, 290.

The Charadrius (Lyons), 290.

December, January, February (Amiens), 291.

March, April, May (Amiens), 291.

June (Paris), 292.

St. Theodore (Amiens), 292.

Faith and Idolatry (Amiens), 293.

Courage and Cowardice (Amiens), 293.

North Porch of St. Firmin (Amiens), 294, 295.

South Porch of the Blessed Virgin (Amiens), 296, 297.

The Prophecy of Zephaniah, 298.

#### BANQUET VILLAGE ASYLUM.

Plan of Estate, facing p. 310.

Observation Block: Plan, 311.

Acute Block: Plan, 312.

Septic Tanks and Filter Beds, 313.

Plan of Workshops, Engine and Boiler House, 315.

Plan of Kitchen and Stores, 316.

Laundry Block: Plan, 317.

Farmsteadling: Plan, 318.

Plans of Administrative Block, Hospital Block, Medical Superintendent's House, and Nurses' Home, facing p. 318.

Nurses' Home: Elevation, 319.

Elevation of Hospital Block, 319.

Mortuary Block: Plan, 320.

Administrative Building: Centre Block and West Wing, 321.

Plan of Recreation Hall, 321.

Acute Block: Plan of First Floor, 322.

#### THE CATHEDRAL CHURCH OF CEFALÙ, SICILY.

General View, 333.

S. Giovanni dei Leprosi, Palermo: Plan, 335.

La Martorana, Palermo: Plan, 335.

S. Cataldo, Palermo: Plan, 335.

S. Giovanni degli Eremiti, Palermo: Plan, 335.

La Capella Palatina, Palermo: Plan, 335.

Cathedral, Monreale: Plan, 335.

Plan of Cefalù Cathedral, 337.

Interior to East, 338; Section, 339.

Mosaic, 340.

East Elevation, 341.

West Elevation, 342.

Inscriptions, 344, 345.

Masons' Marks, 346.

Tomb of Roger, Norman King of Sicily, 348.

View from the North-east, 349.

#### THE ENGLISH ORIGIN OF FRENCH FLAMBOYANT.

Fourteenth-century Stallwork, Lancaster Church, 356.

#### A THREEFOLD ASPECT OF ARCHITECTURE.

Bank of Ireland, 365.

Musée Galliera, Paris, 367.

The Central Court, Petit Palais, Paris, 368.

Church of Val de Grâce, Paris, 371.

Classic Villa, Vienna, 372.

The Pastellistes' Pavilion, 1900 Exhibition, Paris, 374.

The Larkin Building, Buffalo, U.S.A., 375.

First Preliminary Design for Edinburgh Municipal Buildings, 376.

Competition Design for Edinburgh Municipal Buildings: Elevation to Warriston Close, 377.

Apartment House, Charlottenburg, 380.

Design for Crematorium, Zurich, 381.

## THE ARCHITECTURE OF THE BRIDGES OF LONDON.

- Plan showing Distances between Bridges in Central London, 432.  
 The Tower Bridge, 433.  
 London Bridge, 433.  
 Cannon Street Railway Bridge (looking North), 433; (looking South), 433.  
 Southwark Bridge (looking East), 434.  
 St. Paul's Railway Bridge (looking West), 434.  
 Blackfriars Railway Bridge (looking South), 434.  
 Blackfriars Public Bridge, 434.  
 Waterloo Bridge, 435.  
 Charing Cross Railway Bridge, 435.  
 Westminster Bridge, 435.  
 Lambeth Bridge, 435.  
 Vauxhall Bridge: Bronze Figures in Panels, 436, 437; View, 438; Detail "Architecture," 439.  
 Grosvenor Road Railway Bridge, 438.  
 Chelsea Bridge, 438.  
 Albert Bridge, 439.  
 Battersea Bridge, 439.  
 Wandsworth Bridge, 439.  
 West London Railway Bridge, 439.  
 Putney Railway Bridge, 440.  
 Putney Public Bridge, 440.  
 Hammersmith Bridge, 440.

## ENGLISH VILLAGES.

- Abbots Morton, Worcestershire, 468.  
 Cottages at Winson, Gloucestershire (Coln Valley), 469.

## A FEW DAYS IN FRANCE.

- Le Petit Andely and the Château Gaillard, 470.  
 Statues in the South Porch, Le Mans Cathedral, 471.  
 From North Porch, Chartres, 472.  
 Staircase, Chartres, 473.  
 Saint-Pierre, Chartres, 473.  
 Le Mans Cathedral, 474.

## ENGLISH AND ITALIAN GARDEN ARCHITECTURE.

- Trentham Hall, 485, 489.  
 West Front, Trentham Hall, 487.  
 Wellburn Hall, Kirby Moorside, 490.  
 Boat-house at Keaneys Court, 491.  
 Wyck Cross Place, 492.  
 Summer-house at Foot's Cray Place, 493.  
 Cloisters at Certosa di Pavia, 495.

## SÉLINONTE, COLONIE DORIENNE EN SICILE.

- Sélinonte, 513, 532.  
 Plan d'Ensemble des Ruines, 516.  
 Plan de la Ville et de ses Abords, 517.  
 Plan: État Actuel de l'Acropole, 518.  
 Plan de l'Acropole, 519.

- Front Nord de l'Acropole, Coupe du Plateau de l'Acropole, Face Est de l'Acropole, Sélinonte: Aspect Général, Plan État Actuel des Temples de l'Acropole, 521.  
 Front Nord de l'Acropole: Fortifications d'Hermocrate, facing p. 522.  
 Front Nord de l'Acropole: Fortifications d'Hermocrate, 523.  
 Temple C, 523, 524.  
 Façade Est: Folding plate facing Façade Sud | p. 524.

## ENGLISH CHURCH SCREENS.

- Minehead, 544.  
 Kenton, 545.

## THE FRANCO-BRITISH EXHIBITION.

- Balloon View, 546.  
 Block Plan, 547.  
 The Court of Honour, 548.  
 Side Entrance to French Applied Arts Palace, 549.  
 French Applied Arts Palace, 549.  
 British Applied Arts Palace, 550, 551.  
 The Canadian Pavilion, 552.  
 Palace of Music, 553.  
 Gramophone Pavilion, 554.  
 Palace of Women's Work, 555.  
 Pavillon Louis-Quinze, 555.  
 Pavillon of the Collectivité André Déliens, 556.

## CHRISTCHURCH PRIORY, HAMPSHIRE.

- Christchurch Priory and the Norman House, 557.  
 Plan, 559.  
 East Elevation, 560.  
 West Elevation, 561.  
 Section through Nave, 562.  
 Bay of Nave Arcade, 563.  
 Detail of Nave Arcade, 565.  
 South Transept, 566.  
 Entrance to Vestibule, 569.  
 The Reredos, 571.  
 Lady Chapel, 574.  
 West Door, 575.  
 Section through Choir, 576.  
 South Choir Aisle, from Lady Chapel, 577.  
 Christchurch Priory, 579.  
 Details of Carving, Choir Stalls, 580.  
 Seal of the Church, 581.

## THE PARTHENON, AND ITS INFLUENCE ON THE ARCHITECTURE OF THE CLASSIC REVIVAL.

- Panorama of Athens from the Observatory Hill, 593.  
 The Acropolis, Athens, from Philopappos Hill, 594.  
 Plan, 595.  
 View showing Curvature of Stylobase of Parthenon, 596.  
 South Colonnade, 597.  
 Joining of the Parthenon Columns, 598.  
 Fallen Drum, 598.

- Fallen Capital, 599.  
 Sketch of Interior of S.E. Angle, 600.  
 The National Monument, Edinburgh, 602.  
 Exterior of the Walhalla, Regensburg, 603; Interior, 603.

## NOTES ON AMERICAN SCULPTURE, CHIEFLY IN RELATION TO GOTHIC WORK.

- Hilberd Memorial Chapel, Chicago, 605, 616.  
 Statue of St. Simon, Cathedral of St. John, New York, 606.  
 Cathedral of St. John, New York: Statuettes in Chapels, 607.  
 Choir Plan, St. John's Cathedral, New York, 608.  
 John Ruskin, 608.  
 Princeton University: Specimens of Models for Gargoyles, 609; Examples of Sculpture, 610.  
 Military Station, West Point: Examples of Grotesques, 611.  
 City of New York College: Examples of Grotesques, 613.  
 St. James's Church, Philadelphia: Figures on Reredos, 614.

## FAMAGUSTA.

- Corts of Arms surviving on the Walls, 625.  
 Plan of, in the Sixteenth Century, 631.  
 Plan of the Citadel, 633.  
 Elevation and Section of the Citadel, 634.  
 Plan of the Land Gate and Ravelin, 635.  
 Plan of a Ravelin, 635.  
 Inside the Limassol Bastion or Land Gate, 636.  
 Modern Entrance to Famagusta, showing Limassol Bastion and a Caponnière, 636.  
 The Moratto Bastion: Plan and Elevation, 637.  
 Plan and Side Elevation of the S. Luca Bastion, 638.  
 The Water-Gate of the Arsenal, viewed from the Port, 639.  
 Plan of the Water-Gate of the Arsenal, 639.  
 Porta del Mar (The Sea Gate), 640, 641.  
 A Corner Tower of the Citadel, 642.  
 The Martinengo Bastion: Plan, 643.  
 Relief Model of a Fortress, on Pedestal of a Column, Façade of S. Maria Zobenigo, Venice, 644.  
 View of Ravelin from an Embankment, 644.  
 Interior of Martinengo Bastion, 645.  
 View of the West Wall, 647.  
 View of the Great Ravelin and the Land Gate Bastion, 647.  
 Henry VIII's Gun, on the Terrace of Government House, Nicosia, 648.  
 Badges, 648.

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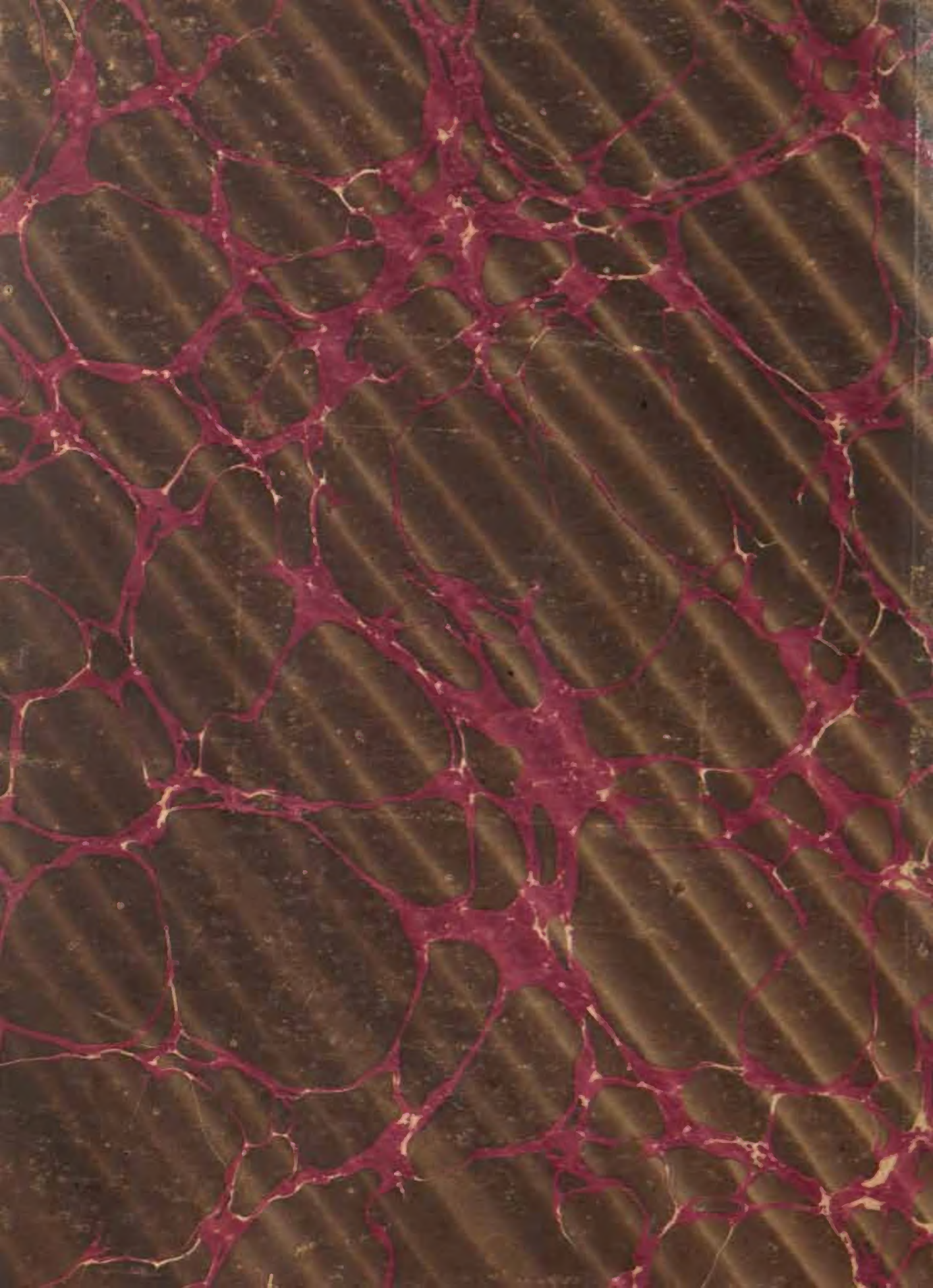
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